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Telephone: (269) 685-5181 Fax: (269) 685-5223

www.CRAworld.com

July 9, 2012 Reference No. 056394

Ms. Sheila Desai Remedial Project Manager U.S. Environmental Protection Agency – Region V 77 West Jackson Boulevard (SR-6J) Chicago, Illinois 60604-3590

Dear Ms. Desai:

Re: Monthly Progress Report – June 2012

Former Plainwell, Inc. Mill Property Operable Unit No. 7

Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site

Allegan and Kalamazoo County

As required by Task 8, Progress Reports in the Statement of Work of the Remedial Investigation and Feasibility Study (RI/FS) at the former Plainwell, Inc. Mill Property, please find attached three copies of the Progress Report No. 68 for the period of June 1, 2012 through June 30, 2012.

Should you have any questions or require any additional information, please do not hesitate to contact the undersigned.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Jennifer L. Quigley, P.E.

JQ/15/Plw.

Encl.

cc: Paul Bucholtz (MDEQ) – three hard copies

Jim Saric (U.S. EPA) – electronic only

Leslie Kirby-Miles (U.S. EPA) – electronic only

Erik Wilson (City of Plainwell) - electronic only

Richard Gay (Weyerhaeuser) - electronic only

Joe Jackowski (Weyerhaeuser) - electronic only

Martin Lebo (Weyerhaeuser) – electronic only

Michael Erickson (Arcadis) – electronic only

Dawn Penniman (Arcadis) – electronic only

Garry Griffith (Georgia-Pacific, LLC) - electronic only

Jeffrey Lifka (Tetra Tech) - electronic only

Gregory Carli (CRA) - electronic only

Equal Employment Opportunity Employer

# Progress Report No. 68 June 1, 2012 to June 30, 2012

# Remedial Investigation and Feasibility Study Former Plainwell, Inc. Mill Property Plainwell, Michigan

This progress report is being submitted to the United States Environmental Protection Agency (U.S. EPA) in accordance with Task 8: Progress Reports and the Schedule for Major Deliverables contained in the Statement of Work for the Remedial Investigation/Feasibility Study (RI/FS), pursuant to the terms of the Consent Decree for the Design and Implementation of Certain Response Actions at Operable Unit No. 4 and the Plainwell, Inc. Mill Property (Site) Operational Unit No. 7of the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site (Consent Decree), which became effective February 22, 2005.

### 1. Work Performed

- Submittal of summary memorandum on June 22, 2012 for soil samples collected in the vicinity of MW-16 on March 29, 2012 to define the nature and extent of PCBs identified in soil during the RI.
- Submittal of memorandum on June 27, 2012 summarizing the results of samples collected at
  the Site in the vicinity of the activities conducted on the Site by the MDOT, Michigan Gas
  Utilities, and contractors on behalf of the City of Plainwell in support of redevelopment
  during the month of April 2012. Activities included the initiation of installation and/or
  realignment of storm sewer and natural gas lines, and demolition of portions of the Mill
  Buildings.

### 2. Data Received

- Receipt of sample results for waste characterization samples collected from excavated
  materials from TP-203 and drums from the MW-16 investigation. The results for the waste
  characterization samples are attached. Investigation-derived waste will be appropriately
  profiled and transported off-Site for proper disposal.
- 3. Modifications to Work Plans or Other Schedules Proposed to, or Approved by, the U.S. EPA
- None.

### 4. Problems Encountered and Planned Resolution

 An error was identified associated with the use of certain sample locations relative to individual redevelopment areas associated with the Human Health Risk Assessment (HHRA) submitted as part of the RI Report. U.S. EPA was informed of this error on May 24, 2012 and revisions to particular sections of the RI Report will be completed and submitted to U.S. EPA and MDEQ in July 2012.

# 5. Work Anticipated During the Next Reporting Period

- Submittal of responses for comments received from U.S. EPA on the Work Plan for Additional RI Investigation Activities.
- Submittal of Revised Work Plan for Additional RI Investigation Activities.
- Implementation of activities summarized in the Work Plan for Additional RI Investigation Activities, upon approval of Work Plan by U.S. EPA.

# 6. Anticipated Development with Work during the Next Period

None.

# 7. Other Relevant Information

None.



June 8, 2012

Analytical Report for Service Request No: K1204583

Paul Wiseman Conestoga-Rovers & Associates, Incorporated 14496 Sheldon Rd., Suite 200 Plymouth, MI 48170

RE: Former Plainwell Mill/056394

Dear Paul:

Enclosed are the results of the samples submitted to our laboratory on May 12, 2012. For your reference, these analyses have been assigned our service request number K1204583.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.caslab.com. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at Howard.Holmes@alsglobal.com.

Respectfully submitted,

Columbia Analytical Services, Inc.

Howard Holmes

Project Manager

HH/ln

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## Acronyms

ASTM American Society for Testing and Materials

A2LA American Association for Laboratory Accreditation

CARB California Air Resources Board

CAS Number Chemical Abstract Service registry Number

CFC Chlorofluorocarbon
CFU Colony-Forming Unit

DEC Department of Environmental Conservation

DEQ Department of Environmental Quality

DHS Department of Health Services

DOE Department of Ecology
DOH Department of Health

EPA U. S. Environmental Protection Agency

ELAP Environmental Laboratory Accreditation Program

GC Gas Chromatography

GC/MS Gas Chromatography/Mass Spectrometry

LOD Limit of Detection
LOQ Limit of Quantitation

LUFT Leaking Underground Fuel Tank

M Modified

MCL Maximum Contaminant Level is the highest permissible concentration of a

substance allowed in drinking water as established by the USEPA.

MDL Method Detection Limit
MPN Most Probable Number
MRL Method Reporting Limit

NA Not Applicable
NC Not Calculated

NCASI National Council of the Paper Industry for Air and Stream Improvement

ND Not Detected

NIOSH National Institute for Occupational Safety and Health

PQL Practical Quantitation Limit

RCRA Resource Conservation and Recovery Act

SIM Selected Ion Monitoring

TPH Total Petroleum Hydrocarbons

tr Trace level is the concentration of an analyte that is less than the PQL but greater

than or equal to the MDL.

#### Inorganic Data Qualifiers

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- E The result is an estimate amount because the value exceeded the instrument calibration range.
- J The result is an estimated value.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOO/LOD is elevated due to a matrix interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.
- H The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

#### Metals Data Qualifiers

- The control limit criteria is not applicable. See case narrative.
- J The result is an estimated value.
- E The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
- M The duplicate injection precision was not met.
- N The Matrix Spike sample recovery is not within control limits. See case narrative.
- S The reported value was determined by the Method of Standard Additions (MSA).
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- W The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
- i The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
- X See case narrative.
- + The correlation coefficient for the MSA is less than 0.995.
- Q See case narrative. One or more quality control criteria was outside the limits.

#### **Organic Data Qualifiers**

- \* The result is an outlier. See case narrative.
- # The control limit criteria is not applicable. See case narrative.
- A A tentatively identified compound, a suspected aldol-condensation product.
- B The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
- C The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
- D The reported result is from a dilution.
- E The result is an estimated value.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. DOD-QSM 4.2 definition: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- O See case narrative. One or more quality control criteria was outside the limits.

#### Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

# Columbia Analytical Services, Inc. - Kelso State Certifications, Accreditations, and Licenses.

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	viet.
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Louisiana DHH	Not available	LA110003
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
New Mexico ED	http://www.nmenv.state.nm.us/dwb/Index.htm	•
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	1704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	_
Kelso Laboratory Website	www.caslab.com	NA
	·	

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

**Case Narrative** 

#### ALS ENVIRONMENTAL

Client:

Conestoga-Rovers & Associates

Service Request No.:

Date Received:

K1204583 5/12/12

Project: Sample Matrix: Former Plainwell Mill Soil

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

### Sample Receipt

Two soil samples were received for analysis at ALS Environmental on 5/12/12. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

#### **TCLP Metals**

No anomalies associated with the analysis of these samples were observed.

# PCB Aroclors by EPA Method 8082

#### Sample notes:

The PCBs were logged in and put on hold per instruction on COC.

The PCBs were taken off hold on May 17<sup>th</sup> per email from Paul Wiseman

#### **Elevated Detection Limits:**

Sample SO-56394-051112-EB-009 required dilution due to the presence of elevated levels of target analyte. The reporting limits were adjusted to reflect the dilution.

#### **Surrogate Exceptions:**

The control criteria for Decachlorobiphenyl in this field sample were not applicable. The analysis of the sample required a dilution, which resulted in a surrogate concentration below the reporting limit. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

#### TCLP Volatiles by EPA Method 1311/8260

# **Calibration Verification Exceptions:**

The following analyte was flagged as outside the lower control criterion for Continuing Calibration Verification (CCV) J:\MS18\00530F011.D: 2-Butanone (MEK). In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The CAS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

#### TCLP Semivolatiles by EPA Method 1311/8270

No anomalies associated with the analysis of these samples were observed.

Approved by

\_\_Date\_\_\_@

**Chain of Custody** 



# CHAIN OF CUSTODY RECORD

14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170 Phone: (734) 453-5123

Fax: (734) 453-5201

cocno. 2 09384

(See Reverse Side for Instructions)

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# PC HA

Page\_\_\_\_of\_\_\_

# **Cooler Receipt and Preservation Form**

Client / Projec	et: CRA				Serv	vice Request <b>K</b>	12 C	14583	)		
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**Total Solids** 

Now part of the ALS Group

Analytical Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

**Total Solids** 

Prep Method:

NONE

Analysis Method:

160.3M

Units: PERCENT

Service Request: K1204583

Basis: Wet

Test Notes:

Result Date Date Date Notes Analyzed Lab Code Collected Received Result Sample Name 05/17/2012 68.9 05/11/2012 05/12/2012 SO-56394-051112-EB-009 K1204583-002

Printed: 05/18/2012 20:47

SuperSet Reference: W1205194  $u:\Stealth\Crystal.rpt\Solids.rpt$ 11

Page

1 of 1

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

**Date Collected:** 05/11/2012 **Date Received:** 05/12/2012

**Date Analyzed:** 05/17/2012

**Duplicate Sample Summary Total Solids** 

Prep Method: Analysis Method: NONE

160.3M

Units: PERCENT

Basis: Wet

Test Notes:

Sample Name

Lab Code

Result

Result

Average

Percent Difference

Relative

Result Notes

SO-56394-051112-EB-009

K1204583-002

68.9

Sample

71.6

Duplicate

Sample

70.3

4

Printed: 05/18/2012 20:47

u:\Stealth\Crystal.rpt\Solids.rpt

SuperSet Reference: W1205194

12

# EPA Method 160.3 - Total Solids

Group ID: Analyst: Date Acquired: PFaiman /AB 05/17/2012 00:00 KWG1205194 Oven TempStart: Run #292197 105 DEG C Reviewed By:

Date Completed:

05/18/2012 00:00

Oven TempEnd:

105 DEG C

Date Reviewed:

8 7 6 5 4 3 2 1	K1204318-006 K1204318-019 K1204318-019 K1204318-030 K1204449-023 K1204449-024 K1204583-002 K1204591-001	B-II-COMP Alcatraz-comp B-COMP 5/A-COMP SL0347 SL0348 SO-56394-051112-EB-009 MPA B-88-A (0-6")	SEDIMENT SEDIMENT SEDIMENT SOIL SOIL SOIL SOIL	1.36g 1.36g 1.33g 1.36g 1.36g 1.36g 1.36g 1.35g 1.34g	12.73g 13.61g 16.79g 18.08g 16.78g 11.54g 11.54g 12.30g 14.33g	6.90g 12.04g 8.99g 9.67g 13.74g 9.08g 8.90g 6.50g	48.7 87.2 49.5 49.7 80.3 75.8 68.9 39.7		K-BALANCE-16 K-BALANCE-16 K-BALANCE-16 K-BALANCE-16 K-BALANCE-16 K-BALANCE-16 K-BALANCE-16
9 8	K1204591-001 K1204591-007	MPA B-88-A (0-6")	SOIL	1.34g 1.35g	14.33g 12.91g	6.50g 7.54g	53.5		K-BALANCE-16
10	K1204591-008	MPA B-211 (0-6")	SOIL	1.34g	11.51g	6.74g	53.1		K-BALANCE-16
1 1	K1204591-009	MPA B-31-A (0-6")	SOIL	1.36g	12.80g	9.94g 9.14o	75.0 77.9		K-BALANCE-16
13	K1204591-012	MPA B-41-A (0-6")	SOIL	1.37g	15.70g	7.85g	45.2		K-BALANCE-16
4	K1204591-015	MPASN215550 #1 (0-6")	SOIL	1.35g	11.81g	5.10g	35.9		K-BALANCE-16
15	K1204591-016	MPASN215550 #2 (0-6")	SOIL	1.34g	13.98g	5.97g	36.6		K-BALANCE-16
16	KWG1205194-1	Duplicate Client Sample	SEDIMENT	1.36g	13.75g	7.36g	48.4	K1204318-006	K-BALANCE-16 X = 48.6 RP = <
17	KWG1205194-2	Duplicate Client Sample	SOIL	1.34g	15.24g	12.61g	81.1	K1204449-023	K-BALANCE-16 X = 80.7 RP = <
18	KWG1205194-3	Duplicate Client Sample	SOIL	1.36g	13.83g	10.29g	71.6	K1204583-002	K-BALANCE-16 X = 70.3 RP0 = 4
19	KWG1205194-4	Duplicate Client Sample	SOIL	1.34g	15.94g	9.21g	53.9	K1204591-007	K-BALANCE-16 X = 53.7 Rp = 4

u\_\Stealth\Crystal.rpt\prep3.rpt

Metals

# - Cover Page -INORGANIC ANALYSIS DATA PACKAGE

Client:

Comments:

Conestoga-Rovers & Associates, Incorporated

Project Name:

Former Plainwell Mill

Project No.:

056394

Service Request: K1204583

Sample Name:	<u>Lab Code:</u>
SO-56394-051112-EB-008	K1204583-001
SO-56394-051112-EB-008D	K1204583-001D
SO-56394-051112-EB-008S	K1204583-001S
SO-56394-051112-EB-009	K1204583-002
Method Blank	K1204583-MB

Approved By:	30	15 Date:	5/29/12	

# **TCLP Metals**

# - 1 -

# INORGANIC ANALYSIS DATA PACKAGE

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.:

056394

Date Collected: 05/11/12

Project Name: Former Plainwell Mill

Date Received:

05/12/12

Matrix:

TCLP

Date Received.

Units: mg/L

Basis: NA

Sample Name:

SO-56394-051112-EB-008

Lab Code:

K1204583-001

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	6010B	0.100	0.007	1.0	05/18/12	05/22/12	0.008	J	
Barium	6010B	1.0	0.7	1.0	05/18/12	05/22/12	0.7	υ	
Cadmium	6010B	0.0100	0.0003	1.0	05/18/12	05/22/12	0.0010	J	
Chromium	6010B	0.010	0.003	1.0	05/18/12	05/22/12	0.003	υ	
Lead	6010B	0.050	0.004	1.0	05/18/12	05/22/12	0.004	ŭ	
Mercury	7470A	0.0010	0.0004	1.0	05/18/12	05/21/12	0.0004	U	
Selenium	6010B	0.10	0.02	1.0	05/18/12	05/22/12	0.02	υ	
Silver	6010B	0.020	0.006	1.0	05/18/12	05/22/12	0.006	บ	

# **TCLP Metals**

# -1-INORGANIC ANALYSIS DATA PACKAGE

Client:

Conestoga-Rovers & Associates, I

Service Request:

K1204583

Project No.:

056394

Date Collected:

05/11/12

Project Name: Former Plainwell Mill

05/12/12

Matrix:

TCLP

Date Received:

Units: mg/L

Basis: NA

Sample Name:

SO-56394-051112-EB-009

Lab Code:

K1204583-002

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	6010B	0.100	0.007	1.0	05/18/12	05/22/12	0.009	J	
Barium	6010B	1.0	0.7	1.0	05/18/12	05/22/12	0.8	J	
Cadmium	6010B	0.0100	0.0003	1.0	05/18/12	05/22/12	0.0353		
Chromium	6010B	0.010	0.003	1.0	05/18/12	05/22/12	0.006	J	
Lead	6010B	0.050	0.004	1.0	05/18/12	05/22/12	0.069		
Mercury	7470A	0.0010	0.0004	1.0	05/18/12	05/21/12	0.0004	ט	
Selenium	6010B	0.10	0.02	1.0	05/18/12	05/22/12	0.02	υ	
Silver	6010B	0.020	0.006	1.0	05/18/12	05/22/12	0.006	บ	

# **TCLP Metals**

# - 1 -

INORGANIC ANALYSIS DATA PACKAGE

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.:

056394

Date Collected:

Project Name: Former Plainwell Mill

Date Received:

Matrix:

TCLP

Units: mg/L

> NA Basis:

Sample Name:

Method Blank

Lab Code:

K1204583-MB

Analyte	Analysis Method	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Result	С	Q
Arsenic	6010B	0.100	0.007	1.0	05/18/12	05/22/12	0.007	U	
Barium	6010B	1.0	0.7	1.0	05/18/12	05/22/12	0.7	บ	
Cadmium	6010B	0.0100	0.0003	1.0	05/18/12	05/22/12	0.0003	บ	
Chromium	6010B	0.010	0.003	1.0	05/18/12	05/22/12	0.003	บ	
Lead	6010B	0.050	0.004	1.0	05/18/12	05/22/12	0.004	υ	
Mercury	7470A	0.0010	0.0004	1.0	05/18/12	05/21/12	0.0004	υ	
Selenium	6010B	0.10	0.02	1.0	05/18/12	05/22/12	0.02	υ	<u> </u>
Silver	6010B	0.020	0.006	1.0	05/18/12	05/22/12	0.006	ប	<u> </u>

# TCLP Metals

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.:

056394

Project Name: Former Plainwell Mill

ICV Source: Inorganic Ventures

CCV Source:

CAS MIXED

	Initial	Calibrati	on		Continu	ing Calil	bration	AMECONIA AMEC	
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic	2.50	2.50	100	1.00	1.02	102	1.03	103	6010B
Barium	5.00	5.13	103	10.00	10.16	102	10.17	102	6010B
Cadmium	1.25	1.18	94	0.25	0.25	100	0.25	100	6010B
Chromium	0.50	0.47	94	0.25	0.25	100	0.25	100	6010B
Lead	2.500	2.375	95	0.250	0.249	100	0.251	100	6010B
Mercury	0.0050	0.0051	102	0.0050	0.0055	110	0.0055	110	7470A
Selenium	2.50	2.425	97	0.25	0.257	103	0.252	101	6010B
Silver	0.625	0.591	95	0.250	0.254	102	0.257	103	6010B

# TCLP Metals

### INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.:

056394

Project Name: Former Plainwell Mill

ICV Source: Inorganic Ventures

CCV Source:

CAS MIXED

	Initi	al Calibrat	ion		Continu	ing Cali	bration		
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic				1.00	1.04	104	1.05	105	6010B
Barium				10.00	10.04	100	10.32	103	6010B
Cadmium				0.25	0.25	100	0.25	100	6010B
Chromium				0.25	0.25	100	0.25	100	6010B
Lead				0.250	0.253	101	0.253	101	6010B
Mercury				0.0050	0.0055	110			7470A
Selenium				0.25	0.262	105	0.262	105	6010B
Silver				0.250	0.260	104	0.259	104	6010B

# **TCLP Metals**

# INITIAL AND CONTINUING CALIBRATION VERIFICATION

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

ICV Source: Inorganic Ventures

CCV Source:

CAS MIXED

	Initi	al Calibrat	ion		Continu	ing Calil	bration		
Analyte	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	Method
Arsenic			1	1.00	1.04	104	1.03	103	6010B
Barium				10.00	10.34	103	10.42	104	6010B
Cadmium		QQQ		0.25	0.25	100	0.25	100	6010B
Chromium				0.25	0.25	100	0.25	100	6010B
Lead				0.250	0.253	101	0.254	102	6010B
Selenium				0.25	0.262	105	0.257	103	6010B
Silver				0.250	0.259	104	0.255	102	6010B

# **TCLP Metals**

### - 2b -

# CRDL STANDARD FOR AA AND ICP

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

	CRDL St	CRDL Standard for AA				CRDL Standa: tial	rd for I	or ICP Final	
Analyte	True	Found	&R	PARTICULAR DESCRIPTION OF THE PARTIC	True	Found	%R	Found	%R
Arsenic	Ta constant				0.100	0.107	107		
Barium				Ī	0.005	0.005	100	,o_o_c	
Cadmium	į				0.005	0.005	100		
Chromium	l		İ		0.005	0.005	100		
Lead	l			1	0.050	0.050	100		
Mercury				Ī	0.00020	0.0002	100.0		
Selenium			l		0.100	0.104	104		
Silver				Ī	0.010	0.010	100		

# **TCLP Metals**

# - 3 -BLANKS

Client:

Conestoga-Rovers & Associates, I Service Request: K1204583

Project No.:

056394

Project Name: Former Plainwell Mill

Preparation Blank Matrix (soil/water): WATER Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

	Initial Calib. Blank								
Analyte	(ug/L)	С	1	С	2	С	3	С	Method
Arsenic	0.007	U	0.007	U	0.007	Ū	0.007	U	6010B
Barium	0.70	U	0.70	U	0.70	Ū	0.70	U	6010B
Cadmium	0.0003	υ	0.0003	U	0.0003	Ū	0.0003	U	6010B
Chromium	0.003	Ü	0.003	U	0.003	บ	0.003	U	6010B
Lead	0.004	Ū	0.004	U	0.004	U	0.004	υ	6010B
Mercury	0.0004	U	0.0004	U	0.0004	U	0.0004	Ū	7470A
Selenium	0.020	υ	0.020	6010B					
Silver	0.006	U	0.006	U	0.006	U	0.006	υ	6010B

# **TCLP Metals**

# -3-BLANKS

Client:

Conestoga-Rovers & Associates, I Service Request: K1204583

Project No.:

056394

Project Name: Former Plainwell Mill

Preparation Blank Matrix (soil/water): WATER Preparation Blank Concentration Units (ug/L or mg/kg): mg/L

	Initial Calib. Blank	Calib. Continuing Calibration  Rlank (ug/L)							
Analyte	(ug/L)	С	1	С	2	С	3	С	Method
Arsenic			0.007	U	0.007	ប	0.007	Ū	6010B
Barium			0.70	Ū	0.70	Ū	0.70	U	6010B
Cadmium			0.0003	U	0.0003	U	0.0003	U	6010B
Chromium			0.003	υ	0.003	บ	0.003	U	6010B
Lead			0.004	U	0.004	U	0.004	U	6010B
Selenium	l		0.020	U	0.020	Ū	0.020	U	6010B
Silver	Ī		0.006	U	0.006	υ	0.006	U	6010B

Now part of the ALS Group

# **TCLP Metals**

-4-

# ICP INTERFERENCE CHECK SAMPLE

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

ICP ID Number:

K-ICP-AES-03

ICS Source:

Inorganic Ventures

Months across the grant feed object feed of pulsars. An Anna San San San San San San San San San	True		Initia	al Found		Final Found			
Analyte	Sol.A	Sol.AB	Sol.A	Sol.AB	%R	Sol.A	Sol.AB	%R	
Arsenic	0.0000		0.0148	0.0114				EL CONTROL OF THE PROPERTY OF	
Barium	0.0000	0.5000	0.0003	0.5108	102				
Cadmium	0.0000	1.0000	-0.0021	0.8806	88				
Chromium	0.0000	0.5000	-0.0027	0.4526	91				
Lead	0.0000	1.0000	-0.0249	0.8994	90				
Selenium	0.0000		-0.0012	-0.0045					
Silver	0.0000	1.0000	0.0003	0.9334	93				

# **TCLP Metals** - 5A -SPIKE SAMPLE RECOVERY

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Units:

MG/L

Project Name: Former Plainwell Mill

Basis: NA

Matrix:

TCLP

Sample Name: SO-56394-051112-EB-008S

Lab Code: K1204583-001S

Analyte	Control Limit %R	Spike Result	С	Sample Result	С	Spike Added	%R	Q	Method
Arsenic	75 - 125	4.750		0.008	J	5.00	94.8		6010B
Barium	75 - 125	10.4		0.7	U	10.00	104.0		6010B
Cadmium	75 - 125	0.912		0.0010	J	1.00	91.1		6010B
Chromium	75 - 125	4.520	Ī	0.003	ט	5.00	90.3		6010B
Lead	75 - 125	4.750	Ī	0.004	υ	5.00	95.0		6010B
Mercury	75 - 125	0.0052	Ì	0.0004	บ	0.005	104		7470A
Selenium	75 - 125	0.93	Ī	0.02	บ	1.00	93.0		6010B
Silver	75 - 125	0.891		0.006	บ	1.00	89.1		6010B

# **TCLP Metals**

#### - 5B -

# POST SPIKE SAMPLE RECOVERY

Client:

Conestoga-Rovers & Associates, I Service Request: K1204583

**Project No.:** 056394

Units:

MG/L

Project Name: Former Plainwell Mill

Basis: NA

Matrix:

WATER

Sample Name: Batch QC2A

Lab Code: K1204051-001A

Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Arsenic	80 - 120	4.9910	0.0091	5.0	99		6010B
Barium	80 - 120	10.1000	0.7000	5.0	101		6010B
Cadmium	80 - 120	0.9504	0.0003	1.0	95		6010B
Chromium	80 - 120	4.7440	0.0068	4.05	95		6010B
Lead	80 - 120	4.9570	0.0274	5.0	98		6010B
Selenium	80 - 120	0.9631	0.0200	1.0	96		6010B
Silver	80 - 120	0.9050	0.0060	1.0	91	******	6010B

# **TCLP Metals**

#### - 5B -

# POST SPIKE SAMPLE RECOVERY

Client:

Conestoga-Rovers & Associates, I Service Request: K1204583

**Project No.:** 056394

Units: MG/L

Project Name: Former Plainwell Mill

Basis: NA

Matrix:

WATER

Sample Name: Batch QC1A

Lab Code: K1204051-006A

				T	T		
Analyte	Control Limit %R	Spike Result C	Sample Result C	Spike Added	%R	Q	Method
Mercury	85 - 115	0.0048	0.0004	0.0050	96.0		7470A

Now part of the ALS Group

# **TCLP Metals**

- 6 -**DUPLICATES** 

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.:

056394

Units: MG/L

Project Name: Former Plainwell Mill

Basis: NA

Matrix:

TCLP

Sample Name: SO-56394-051112-EB-008D

Lab Code:

K1204583-001D

Analyte	Control Limit	Sample (S)	С	Duplicate (D)	С	RPD	Q	Method
Arsenic		0.008	J	0.007	U	200.0		6010B
Barium		0.7	บ	0.7	U			6010B
Cadmium		0.0010	J	0.0012	J	18.2		6010B
Chromium		0.003	บ	0.003	J	200.0		6010B
Lead		0.004	υ	0.004	U			6010B
Mercury		0.0004	U	0.0004	บ			7470A
Selenium		0.02	บ	0.02	Ū			6010B
Silver		0.006	บ	0.006	Ū			6010B

# TCLP Metals

# LABORATORY CONTROL SAMPLE

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.:

056394

Project Name: Former Plainwell Mill

Aqueous LCS Source:

CAS MIXED

Solid LCS Source:

	Aqueou	ıs (ug/L)		Solid (mg/kg)					
Analyte	True	Found	%R	True	Found	С	Limits	₹R	
Arsenic	5	4.860	97.2						
Barium	10	9.8	98.0						
Cadmium	1	0.923	92.3						
Chromium	5	4.600	92.0						
Lead	5	4.730	94.6		1				
Mercury	0.005	0.0051	102.0						
Selenium	1	0.94	94.0				İ		
Silver	1	0.861	86.1						

Now part of the ALS Group

# **TCLP Metals**

-9-ICP SERIAL DILUTIONS

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

**Project No.:** 056394

Units: MG/L

Project Name: Former Plainwell Mill

Sample Name:

Batch QC2L

Lab Code: K1204051-001L

Analyte	Initial Sample Result (I)	Serial Dilution Result (S)	С	% . Differ- ence	Q	м
Arsenic	0.009 J		0.035 U	100.0		P
Barium	0.700 U		3.500 U			P
Cadmium	0.000 0		0.002 0			P
Chromium	0.007		0.015 U	100.0		P
Lead	0.027 J		0.033 J	22.2		P
Selenium	0.020 0		0.100 ប្រ		<u> </u>	P
Silver	0.006 U		០.០30 ប			P

Now part of the ALS Group

# **TCLP Metals**

- 10 -

# **DETECTION LIMITS**

Client:

Conestoga-Rovers & Associates, I Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

ICP/ICP-MS ID #:

GFAA ID #:

AA ID #:

Analyte	Wave- length (nm)	Back- ground	MRL mg/L	MDL mg/L	М
Mercury	253.7		0.0010	0.0004	CV

Now part of the ALS Group

# **TCLP Metals**

- 10 -

### **DETECTION LIMITS**

Client:

Conestoga-Rovers & Associates, I Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

ICP/ICP-MS ID #:

GFAA ID #:

AA ID #:

					uga construent in market in market
Analyte	Wave- length (nm)	Back- ground	MRL mg/L	MDL mg/L	М
Arsenic	189.0		0.100	0.007	P
Barium	455.4		1.000	0.700	P
Cadmium	226.5		0.010	0.0003	P
Chromium	267.7		0.010	0.003	P
Lead	220.3		0.050	0.004	Р
Selenium	196.0		0.100	0.020	P
Silver	328.1		0.020	0.006	P

Comments:	

#### **TCLP Metals**

#### - 11A -

#### ICP INTERELEMENT CORRECTION FACTORS

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

**Project No.:** 056394

Project Name: Former Plainwell Mill

ICP ID Number:

K-ICP-AES-03

		ICP ID Number:	K-ICP-	AES-US		
untigges to have considerable and in the period between the considerable and an accompany of the considerable and accompany of the considerabl	Wave- length	enderen et protessynders som de plant i popularin konsonierprodukt de plant de plant de plant de plant de plant de p	Interelement	Correction Fact	ors for:	
Analyte	(nm)	Al	Ca	Fe	Mg	Со
Aluminum	394.401	0.0000000	0.0000880	0.0000000	0.0000000	0.0000000
Antimony	206.833	0.0000290	0.0000000	-0.0001420	0.0000000	0.000000
Arsenic	189.042	0.0000220	0.0000000	-0.0000580	0.0000000	0.000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Beryllium	234.861	0.0000000	0.0000000	0.0000100	0.0000000	0.000000
Boron	249.678	0.0000000	0.0000000	-0.0002330	0.0000000	0.0016240
Cadmium	226.502	0.0000000	0.0000000	0.0000590	0.0000000	0.0000150
Calcium	393.366	0.0000000	0.0000000	0.0000230	0.0000000	0.000000
Chromium	267.716	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Cobalt	230.786	0.0000000	0.0000000	-0.0000030	0.0000000	0.000000
Copper	224.7	0.0000000	0.000000	0.0001620	0.0000000	0.0006220
Iron	259.94	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Lead	220.353	-0.0000940	0.0000000	0.0000000	0.0000000	0.0000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Magnesium	285.213	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Manganese	257.61	0.0000000	0.0000000	0.0000130	0.0000000	0.0000000
Molybdenum	202.03	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Nickel	231.604	0.0000000	0.0000000	0.0000000	0.0000000	0.0001940
Phosphorus	214.914	-0.0005540	0.0000000	0.0006550	0.0000000	0.0000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Selenium	196.0	0.0000000	0.0000000	-0.0001120	0.0000000	0.0000000
Silicon	251.611	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Silver	328.068	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
Strontium	407.771	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Thallium	190.856	0.0000000	0.0000000	0.0000000	0.0000000	0.0014540
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Titanium	336.121	0.0000000	0.0000210	0.0000000	0.0000000	0.0000320
Vanadium	292.402	0.0000000	0.0000000	-0.0000020	0.0000000	0.0000000
Zinc	213.856	0.0000000	0.0000000	0.0001010	0.0000000	0.0000000

#### **TCLP Metals**

#### - 11A -

#### ICP INTERELEMENT CORRECTION FACTORS

Client:

Conestoga-Rovers & Associates, I Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

ICP ID Number:

K-TCP-AES-03

		ICP ID Number:	K-ICP-	AES-03		
	Wave- length	access to a state programment in common medicacy from AMMA and supply a 444 and 444 and programment in common medicacy and com	Interelement	Correction Fac	tors for:	
Analyte	(nm)	Cr	Mn	Мо	Ni	P
Aluminum	394.401	0.0000000	0.0000000	0.0004350	0.0003100	0.000000
Antimony	206.833	0.0173600	-0.0001330	0.0011910	0.0000000	0.000000
Arsenic	189.042	0.0003470	-0.0001550	0.0005480	0.0000000	0.000000
Barium	455.403	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Beryllium	234.861	0.0000000	-0.0000300	-0.0001890	-0.0000190	0.000000
Boron	249.678	0.0004530	0.0000000	-0.0008670	0.0000000	0.000000
Cadmium	226.502	0.0000410	0.0000000	-0.0000280	-0.0000170	0.000000
Calcium	393.366	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Chromium	267.716	0.0000000	0.0001390	0.0000680	0.0000000	0.0000280
Cobalt	230.786	-0.0000120	0.0000380	0.0011280	-0.0001970	0.000000
Copper	224.7	0.0000000	0.0000240	0.0025520	-0.0024670	0.000000
Iron	259.94	0.0000000	0.0000000	-0.0002400	0.0000000	0.000000
Lead	220.353	0.0000000	0.0001340	-0.0010800	0.0001780	0.000000
Lithium	670.784	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Magnesium	285.213	-0.0014420	0.0000000	0.0000000	0.0000000	0.000000
Manganese	257.61	-0.0000110	0.0000000	0.0000000	0.0000000	0.000000
Molybdenum	202.03	0.0000000	-0.0000270	0.0000000	-0.0000310	0.000000
Nickel	231.604	-0.0000240	0.0000000	-0.0000480	0.0000000	0.000000
Phosphorus	214.914	0.0000000	-0.0004110	0.0085820	0.0000000	0.000000
Potassium	766.491	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Selenium	196.0	0.0000000	0.0006630	0.0000000	0.0000000	0.000000
Silicon	251.611	0.0000000	0.0000000	0.0192220	0.0000000	0.000000
Silver	328.068	0.0000000	0.0000390	0.0000000	0.0000000	0.000000
Sodium	589.592	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Strontium	407.771	0.0000080	0.0000000	0.0000000	0.0000000	0.000000
Thallium	190.856	0.0002570	0.0008680	0.0000000	0.0000000	0.000000
Tin	189.989	0.0000000	0.0000000	0.0000000	0.0000000	0.000000
Titanium	336.121	0.0000000	0.0000000	0.0000410	0.0001300	0.000000
Vanadium	292.402	0.0000000	-0.0027450	-0.0002030	0.0000000	0.000000
Zinc	213.856	0.0000000	0.0000000	-0.0001050	0.0057510	0.000000

#### **TCLP Metals**

#### - 11B -

#### ICP INTERELEMENT CORRECTION FACTORS

Client: Conestoga-Rovers & Associates, I Service Request: K1204583

**Project No.:** 056394

Project Name: Former Plainwell Mill

		ICP ID Number:	K-ICP-	AES-03		
	Wave- length	epended grant has a least or the residence of the residen	Interelement	Correction Fac	tors for:	Appropriate the second and appropriate the second and appropriate the second appropriate th
Analyte	(nm)	Si	Ti	V		
Aluminum	394.401	0.0000000	0.0000000	0.0005300		George Control
Antimony	206.833	-0.0000210	0.0004780	0.0000000		
Arsenic	189.042	0.0000000	0.0000000	0.0000000		
Barium	455.403	0.0000000	0.0000000	0.0000280		
Beryllium	234.861	0.0000000	0.0000000	0.0000000		
Boron	249.678	0.0000000	0.0000000	-0.0001270		2000
Cadmium	226.502	-0.0000020	0.0000000	0.0000000		
Calcium	393.366	0.0000000	0.0000000	0.0000000		
Chromium	267.716	0.0000000	0.0000590	-0.0000760		
Cobalt	230.786	0.0000000	0.0000000	0.0000000		
Copper	224.7	-0.0000060	0.0004820	-0.0000300		
Iron	259.94	0.0000000	0.0000000	0.0000000		
Lead	220.353	0.0002440	0.0000000	0.0000000		
Lithium	670.784	0.0000000	0.0000000	0.0000000		<u> </u>
Magnesium	285.213	0.0000000	0.0000000	0.0000000		
Manganese	257.61	0.0000000	0.0000000	0.0000000		***************************************
Molybdenum	202.03	0.0000000	0.0000000	0.0000000		
Nickel	231.604	0.0000000	0.0000000	0.0000000		
Phosphorus	214.914	0.0000000	0.0000000	0.0000000		
Potassium	766.491	0.0000000	0.0000000	0.0000000	· · · · · · · · · · · · · · · · · · ·	
Selenium	196.0	0.0000000	0.0000000	0.0000000		W-97-97-97-97-97-97-97-97-97-97-97-97-97-
Silicon	251.611	0.0000000	0.0000000	0.0000000	·····	**************************************
Silver	328.068	0.0000000	-0.0000780	0.0000910		
Sodium	589.592	0.0000000	0.000000	0.0000000	watelmass between the control of the	
Strontium	407.771	0.0000000	0.0000000	0.0000000	······································	
Thallium	190.856	0.0000000	-0.0008960	-0.0007350		
Tin	189.989	0.0000000	-0.0007490	0.0000000		
Titanium	336.121	0.0000000	0.000000	0.0000000		
Vanadium	292.402	0.0000000	0.0009490	0.0000000		
Zinc	213.856	0.0000000	-0.0003230	0.0000000		

## COLUMBIA ANALYTICAL SERVICES, INC. Now part of the ALS Group

#### **TCLP Metals**

#### -12-

#### ICP LINEAR RANGES (QUARTERLY)

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

ICP ID Number:

K-ICP-AES-03

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	Method
Arsenic	15.000	90000	6010B
Barium	15.000	45000	6010B
Cadmium	15.000	22500	6010B
Chromium	15.000	45000	6010B
Lead	15.000	22500	6010B
Selenium	15.000	90000	6010B
Silver	15.000	1800	6010B

## COLUMBIA ANALYTICAL SERVICES, INC. Now part of the ALS Group

#### **TCLP Metals** -13-PREPARATION LOG

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

**Project No.:** 056394

Project Name: Former Plainwell Mill

Method: CV

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1204583-001	05/18/12	20.0	20.0
K1204583-001D	05/18/12	20.0	20.0
K1204583-001S	05/18/12	20.0	20.0
K1204583-002	05/18/12	20.0	20.0
K1204583-MB	05/18/12	20.0	20.0
LCSW	05/18/12	20.0	20.0

## COLUMBIA ANALYTICAL SERVICES, INC. Now part of the ALS Group

## TCLP Metals -13PREPARATION LOG

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Project Name: Former Plainwell Mill

Method: P

Sample ID	Preparation Date	Initial Volume	Final Volume(mL)
K1204583-001	05/18/12	50.0	50.0
K1204583-001D	05/18/12	50.0	50.0
K1204583-001S	05/18/12	50.0	50.0
K1204583-002	05/18/12	50.0	50.0
K1204583-MB	05/18/12	50.0	50.0
LCSW	05/18/12	50.0	50.0

## TCLP Metals

#### ANALYSIS RUN LOG

Client: Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Run Number: 052112A HG2

Project Name: Former Plainwell Mill

Instrument ID Number: K-CVAA-02

Method: CV

CV

Start Date: 05/21/12

End Date:

05/21/12

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Sample No.	D/F	Time	% R	A L		A S	B A	B E	C D	C A	C R		Ω C		P B	M G	M N	H G	N I	К	S E	A G	N A	T L	v	Z N	C N
Calibration Blank	1.00	09:15																X									PROPERTY.
Standard #1	1.00	09:17																X									
Standard #2	1.00	09:18																X									
Standard #3	1.00	09:20																X									
Standard #4	1.00	09:22																X									***************************************
Standard #5	1.00	09:23																X									
ICV1	1.00	09:25																x									
ICB1	1.00	09:26																х									
CRDL1	1.00	09:28																X									
CCV1	1.00	09:30																х									
CCB1	1.00	09:31																Х									
K1204583-MB	1.00	09:33																х									
LCSW	1.00	09:34									***************************************			**********				х					Π		- AND AND AND AND AND AND AND AND AND AND		
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ZZZZZZ	1.00	09:38																									
ZZZZZZ	1.00	09:39											JOW! (US) O.U.			CANTOLING							Γ				
ZZZZZZ	1.00	09:41																									New Colors
ZZZZZZ	1.00	09:43																					Π				
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K1204051-006A	1.00	09:46																х									
ZZZZZZ	1.00	09:47														-		************	WW.C.								
CCV2	1.00	09:49			MINISTER	NAME OF THE OWNER, OWNER, OWNE												Х									
CCB2	1.00	09:51			*********										Ì			х			1000 CANA		Ī.				-
ZZZZZZ	1.00	09:52												NAMES AND ADDRESS OF THE PERSON NAMES AND ADDRESS OF THE PERSO	T								Π				
ZZZZZZ	1.00	09:54													Ì												
ZZZZZZ	1.00	09:56													Ī						П						
K1204583-001	1.00	09:57																х								П	
K1204583-001D	1.00	09:59																х									-
K1204583-001S	*******	10:00													Ť			х									
K1204583-002		10:02								İ					Ī			х									× 1
CCV3		10:04		<u> </u>											T			х								Π	
ссвз	1.00	10:05													Ť			х		П	П	-					

<sup>\* -</sup> Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

## TCLP Metals

#### ANALYSIS RUN LOG

Client:

Conestoga-Rovers & Associates, I

Service Request:

K1204583

Project No.: 056394

Run Number:

052212BICP03

Project Name: Former Plainwell Mill

Instrument ID Number: K-ICP-AES-03

Method:

Start Date: 05/22/12

End Date:

05/22/12

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Sample No.	D/F	Time	% R	A L	i	A S	B A	B E	C D	C A	C R	C 0		F E			M N	H G	N I	K	S E	A G	N A	T L	v	Z N	- 8
BLK	1.00	14:32				х	X		х		х				х						х	х			Г	Ī	1
STD A	1.00	14:34							X		X		T		Х						Х	Х					
STD B	1.00	14:36	<u> </u>			Х	X	- CONTRACT					T														
ZZZZZZ	1.00	14:39												I													2000
ICV1	1.00	14:41				Х	х		Х		X				x						x	x					
ICB1	1.00	14:43	***************************************			X	X		x		x		П		х						х	х					
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ZZZZZZ	1.00	14:55																									
ZZZZZZ	1.00	14:57																									
CCV1	1.00	15:00				х	х								T												
CCV1	1.00	15:02							x		x				х						х	x					
CCB1	1.00	15:04				Х	x		х		Х				х						х	Х					_
ICSA	1.00	15:07				X	x		x		х				х						Х	х					_
ICSAB	1.00	15:09	***************************************			Х	Х		х		X				х						Х	X					
ZZZZZZ	1.00	15:12																									
ZZZZZZ	1.00	15:14											T														
CCV2	1.00	15:16				х	х																				_
CCV2	1.00	15:19							x		х				х					-	х	x					
CCB2	1.00	15:21				х	Х		х		Х		$\sqcap$		х						Х	x					
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ZZZZZZ	1.00	15:26	/				-																				
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K1204583-MB	1.00	15:43				х	х		x		х				x						x	x					
LCSW	1.00	15:45				х	х		х		х		T		x						х	х					1

<sup>\* -</sup> Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

#### **TCLP Metals**

- 14 -

#### **ANALYSIS RUN LOG**

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Run Number:

052212BICP03

Project Name: Former Plainwell Mill

Instrument ID Number: K-ICP-AES-03

Method:

Start Date: 05/22/12

End Date:

05/22/12

													1	\na	lу	te	S										
Sample No.	D/F	Time	% R	A	S B	A S	B A	1	C D	C A	C R	3 1	C U	F E	P B	M G	M N	H G	N I	K	S E	A G	N A	T L	v	Z N	- 1
ZZZZZZ	1.00	15:47																			100-144004						Total Control
CCV3	1.00	15:50				Х	Х									20000000											
CCV3	1.00	15:52							х		Х				Х						х	X					I
CCB3	1.00	15:54				Х	Х		x		X				X						X	Х					
K1204051-001L	5.00	15:57				Х	х	Ī	x		X				Х						х	х					Ī
ZZZZZZ	1.00	15:59																									T
ZZZZZZ	1.00	16:01																									
K1204051-001A	1.00	16:04				Х	Х		x		x				Х						x	x					T
ZZZZZZ	2.00	16:06																									Ī
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ZZZZZZ	1.00	16:43																									Ī
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K1204583-001	1.00	16:47	****************			х	X		Х		x				х						х	x					Ī
CCV5	1.00	16:49				х	X																				I
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ZZZZZZ	1.00	16:57																									ſ
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 $<sup>\</sup>star$  - Denotes additional elements (other than the standard CLP elements) are represented on another Form 14

#### **TCLP Metals**

- 14 -

#### ANALYSIS RUN LOG

Client:

Conestoga-Rovers & Associates, I

Service Request: K1204583

Project No.: 056394

Run Number:

052212BICP03

Project Name: Former Plainwell Mill

Instrument ID Number: K-ICP-AES-03

Method:

p

Start Date: 05/22/12

End Date:

05/22/12

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Sample No.	D/F	Time	% R	A L	1	A S	B A	B E	C D	C A	ł .	C 0	υ C	1	P B	M G	M N	H G	N	К	S E	A G	N A	T L	V	C N
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ZZZZZZ	1.00	17:04																								
K1204583-001D	1.00	17:07				X	Х		x		X				Х						X	X				
K1204583-001S	1.00	17:09				X	Х		x		X				Х						X	Х				
K1204583-002	1.00	17:12				x	Х		x		X				Х						x	x		***************************************		
ZZZZZZ	1.00	17:14																								
ZZZZZZ	1.00	17:16														uu karaa										
ZZZZZZ	1.00	17:18																								
ZZZZZZ	1.00	17:21																								
ZZZZZZ	1.00	17:23																								
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ZZZZZZ	1.00	17:28																								
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ссв6	1.00	17:34				х	x		x		х				x						Х	x				·

**Polychlorinated Biphenyls** 

# Organic Analysis: <a href="Polychlorinated Biphenyls">Polychlorinated Biphenyls</a> (PCBs)

Summary Package

Sample and QC Results

Now part of the ALS Group

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request:

K1204583

Cover Page - Organic Analysis Data Package Polychlorinated Biphenyls (PCBs)

Date Date Received Collected Sample Name Lab Code K1204583-002 05/11/2012 05/12/2012 SO-56394-051112-EB-009

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:

Title:

1 of

Date:

Now part of the ALS Group

Analytical Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

Date Collected: 05/11/2012 **Date Received:** 05/12/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:

SO-56394-051112-EB-009

Lab Code:

K1204583-002

**Extraction Method: Analysis Method:** 

EPA 3541 8082A

Units: ug/Kg Basis: Dry

Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	730	210	100	05/20/12	05/30/12	KWG1205367	
Aroclor 1221	ND U	1500	210	100	05/20/12	05/30/12	KWG1205367	
Aroclor 1232	ND U	730	210	100	05/20/12	05/30/12	KWG1205367	
Aroclor 1242	9900 D	730	210	100	05/20/12	05/30/12	KWG1205367	
Aroclor 1248	ND U	730	210	100	05/20/12	05/30/12	KWG1205367	
Aroclor 1254	ND U	730	210	100	05/20/12	05/30/12	KWG1205367	
Aroclor 1260	ND U	730	210	100	05/20/12	05/30/12	KWG1205367	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	159	35-133	05/30/12	Outside Control Limits

Comments:

198

1 of 1.

Now part of the ALS Group Analytical Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

Date Collected: NA Date Received: NA

#### Polychlorinated Biphenyls (PCBs)

Sample Name:

Method Blank

Lab Code:

KWG1205367-4

**Extraction Method:** Analysis Method:

EPA 3541 8082A

Units: ug/Kg Basis: Dry

Level: Low

Analyte Name	Result Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Aroclor 1016	ND U	5.0	2.1	l	05/20/12	05/26/12	KWG1205367	
Aroclor 1221	ND U	9.9	2.1	1	05/20/12	05/26/12	KWG1205367	
Aroclor 1232	ND U	5.0	2.1	1	05/20/12	05/26/12	KWG1205367	
Aroclor 1242	ND U	5.0	2.1	1	05/20/12	05/26/12	KWG1205367	
Aroclor 1248	ND U	5.0	2.1	1	05/20/12	05/26/12	KWG1205367	
Aroclor 1254	ND U	5.0	2.1	1	05/20/12	05/26/12	KWG1205367	
Aroclor 1260	ND U	5.0	2.1	1	05/20/12	05/26/12	KWG1205367	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	87	35-133	05/26/12	Acceptable

Comments:

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SuperSet Reference:

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Surrogate Recovery Summary Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541

Analysis Method:

8082A

Service Request: K1204583

Units: PERCENT

Level: Low

Sample Name	Lab Code	Sur1
SO-56394-051112-EB-009	K1204583-002	159D#
Batch QC	K1204775-006	89
Method Blank	KWG1205367-4	87
Batch QCMS	KWG1205367-1	88
Batch QCDMS	KWG1205367-2	84
Lab Control Sample	KWG1205367-3	102

Surrogate Recovery Control Limits (%)

Sur1 = Decachlorobiphenyl

35-133

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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Form 2A - Organic

200

Page

1 of 1

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

Date Extracted: 05/20/2012 Date Analyzed: 05/26/2012

Matrix Spike/Duplicate Matrix Spike Summary Polychlorinated Biphenyls (PCBs)

Sample Name:

Batch QC

Lab Code:

K1204775-006

**Extraction Method:** Analysis Method:

EPA 3541

8082A

Units: ug/Kg

Basis: Dry

Level: Low

Extraction Lot: KWG1205367

Batch QCMS KWG1205367-1

Batch QCDMS KWG1205367-2

Duplicate Matrix Spike Matrix Spike RPD %Rec Sample RPD Limits Limit %Rec Result %Rec Expected Result Result Expected Analyte Name 3 40 122 83 27-128 105 122 85 101 ND Aroclor 1016 4 40 101 122 82 29-131 85 ND 104 122 Aroclor 1260

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3A - Organic

SuperSet Reference:

RR142115

Page

1 of 1

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project: Sample Matrix: Former Plainwell Mill/056394

Soil

Service Request: K1204583

Date Extracted: 05/20/2012 **Date Analyzed:** 05/26/2012

Lab Control Spike Summary Polychlorinated Biphenyls (PCBs)

Extraction Method: EPA 3541 **Analysis Method:** 

8082A

Units: ug/Kg Basis: Dry

Level: Low

Extraction Lot: KWG1205367

Lab Control Sample KWG1205367-3

Lab Control Spike %Rec Limits %Rec Result Expected **Analyte Name** 192 200 96 37-121 Aroclor 1016 42-123 102 203 200 Aroclor 1260

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

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1 of 1

Page

RR142115 SuperSet Reference:

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

Date Extracted: 05/20/2012 **Date Analyzed:** 05/26/2012

Time Analyzed: 18:51

Method Blank Summary Polychlorinated Biphenyls (PCBs)

Sample Name:

Method Blank

Lab Code:

KWG1205367-4

Extraction Method: EPA 3541 Analysis Method:

8082A

Instrument ID: GC32.i

File ID: J:\GC32\DATA\052612.B\0526F036.D

Level: Low

Extraction Lot: KWG1205367

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
Batch QC	K1204775-006	J:\GC32\DATA\052612.B\0526F027.D	05/26/12	14:25
Batch OCMS	KWG1205367-1	J:\GC32\DATA\052612.B\0526F028.D	05/26/12	14:55
Batch QCDMS	KWG1205367-2	J:\GC32\DATA\052612.B\0526F029.D	05/26/12	15:24
Lab Control Sample	KWG1205367-3	J:\GC32\DATA\052612.B\0526F035.D	05/26/12	18:22
SO-56394-051112-EB-009	K1204583-002	J:\GC32\DATA\052912A.B\0529F036.D	05/30/12	01:33

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Form 4A - Organic

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Page RR142115 SuperSet Reference:

1 of 1

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project: Sample Matrix:

Soil

Former Plainwell Mill/056394

Service Request: K1204583 Date Extracted: 05/20/2012 **Date Analyzed:** 05/26/2012

Time Analyzed: 18:22

Lab Control Sample Summary Polychlorinated Biphenyls (PCBs)

Sample Name:

Lab Control Sample

Instrument ID: GC32.i

Lab Code:

KWG1205367-3

File ID: J:\GC32\DATA\052612.B\0526F035.D

**Extraction Method: Analysis Method:** 

u:\Stealth\Crystal.rpt\Form4LCS.rpt

EPA 3541 8082A

Level: Low

Extraction Lot: KWG1205367

This Lab Control Sample applies to the following analyses:

* * ~ *	TO TO	Date Analyzed	Time Analyzed
Lab Code		•	
K1204775-006	J:\GC32\DATA\052612.B\0526F027.D	05/26/12	14:25
KWG1205367-1	J:\GC32\DATA\052612.B\0526F028.D	05/26/12	14:55
KWG1205367-2	J:\GC32\DATA\052612.B\0526F029.D	05/26/12	15:24
KWG1205367-4	J:\GC32\DATA\052612.B\0526F036.D	05/26/12	18:51
K1204583-002	J:\GC32\DATA\052912A.B\0529F036.D	05/30/12	01:33
	KWG1205367-1 KWG1205367-2 KWG1205367-4	K1204775-006 J:\GC32\DATA\052612.B\0526F027.D KWG1205367-1 J:\GC32\DATA\052612.B\0526F028.D KWG1205367-2 J:\GC32\DATA\052612.B\0526F029.D KWG1205367-4 J:\GC32\DATA\052612.B\0526F036.D	Lab CodeFile IDAnalyzedK1204775-006J:\GC32\DATA\052612.B\0526F027.D05/26/12KWG1205367-1J:\GC32\DATA\052612.B\0526F028.D05/26/12KWG1205367-2J:\GC32\DATA\052612.B\0526F029.D05/26/12KWG1205367-4J:\GC32\DATA\052612.B\0526F036.D05/26/12

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QA/QC Results

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 04/05/2012

#### **Initial Calibration Summary** Polychlorinated Biphenyls (PCBs)

Calibration ID: Instrument ID:

CAL11401

GC32.i

Column: DB-35MS

Level ID	File ID	Level ID	File ID
Α	\\cash1\acqudata\GC32\Data\040512.b\0405F003.D	Q	\\cash1\acqudata\\GC32\\Data\\040512.b\\0405F019.D
В	\\cash1\acqudata\GC32\Data\040512.b\0405F004.D	R	\cash1\acqudata\GC32\Data\040512.b\0405F020.D
C	\\cash1\acqudata\GC32\Data\040512.b\0405F005.D	S	\\cash1\acqudata\GC32\Data\040512.b\0405F021.D
D	\\cash1\acqudata\GC32\Data\040512.b\0405F006.D	T	\\cash1\acqudata\GC32\Data\040512.b\0405F022.D
E	\\cash1\acqudata\GC32\Data\040512.b\0405F007.D	U	\\cash1\acqudata\GC32\Data\040512.b\0405F023.D
F	\\cash1\acqudata\GC32\Data\040512.b\0405F008.D	V	\\cash1\acqudata\GC32\Data\040512.b\0405F024.D
G	\\cash1\acqudata\GC32\Data\040512.b\0405F009.D	W	\\cash1\acqudata\GC32\Data\040512.b\0405F025.D
Н	\\cash1\acqudata\GC32\Data\040512.b\0405F010.D	X	\\cash1\acqudata\GC32\Data\040512.b\0405F026.D
Ţ	\\cash1\acqudata\GC32\Data\040512.b\0405F011.D	Y	\\cash1\acqudata\GC32\Data\040512.b\0405F027.D
Ĭ	\\cash1\acqudata\GC32\Data\040512.b\0405F012.D	Z	\\cash1\acqudata\GC32\Data\040512.b\0405F028.D
K	\\cash1\acqudata\GC32\Data\040512.b\0405F013.D	AA	\\cash1\acqudata\GC32\Data\040512.b\0405F029.D
1.	\\cash1\acqudata\GC32\Data\040512.b\0405F014.D	AB	\\cash1\acqudata\GC32\Data\040512.b\0405F030.D
M	\\cash1\acqudata\GC32\Data\040512.b\0405F015.D	AC	\\cash1\acqudata\\GC32\\Data\\040512.b\\0405F031.D
N	\\cash1\acqudata\GC32\Data\040512.b\0405F016.D	AD	\\cash1\acqudata\\GC32\\Data\\040512.b\\0405F032.D
0	\\cash1\acqudata\GC32\Data\040512.b\0405F017.D		
P	\\cash1\acqudata\GC32\Data\040512.b\0405F018.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	A	2.5	80000	В	5.0	74300	С	50	69900	D	100	66600	Е	200	62400
I "	F	500	59800	1						1			!		
Aroclor 1016 {1}	A	25	1220	В	50	1150	С	500	1130	D	1000	1110	Е	2000	1020
,	F	5000	944	! ! !			1						!		
Aroclor 1016 {2}	А	25	4170	В	50	3860	С	500	3410	D	1000	3250	Е	2000	3370
	F	5000	2960	 											
Aroclor 1016 {3}	A	25	2590	В	50	2620	C	500	2460	D	1000	2320	Е	2000	2180
	F	5000	2040	  -  - 											
Aroclor 1016 {4}	A	25	2030	В	50	2080	С	500	1910	D	1000	1840	Е	2000	1700
( )	F	5000	1560	  - 			1 6 8			!					
Aroclor 1016 {5}	А	25	2350	В	50	2070	С	500	1970	D	1000	1880	Е	2000	1750
,	F	5000	1630	 			1 1 1 1			1					
Aroclor 1260 {1}	А	25	4410	В	50	4320	C	500	3980	D	1000	3750	Е	2000	3480
( )	F	5000	3260	  -  -  -						1					
Aroclor 1260 {2}	А	25	5930	В	50	5380	С	500	5010	D	1000	4700	Е	2000	4410
	F	5000	4150	1 ( 1 1									!		
Aroclor 1260 {3}	A	25	4970	В	50	5120	С	500	4660	D	1000	4380	Е	2000	4090
	F	5000	3910	1									1		
Aroclor 1260 {4}	A	25	3580	В	50	3500	С	500	3410	D	1000	3260	Е	2000	3040
	F	5000	2860	! !						1			1		

Results flagged with an asterisk (\*) indicate values outside control criteria.

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QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 04/05/2012

**Initial Calibration Summary** Polychlorinated Biphenyls (PCBs)

Calibration ID: Instrument ID:

CAL11401

GC32.i

Column: DB-35MS

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Aroclor 1260 {5}	A	25	8430	В	50	8060	C	500	7630	D	1000	7320	Е	2000	7050
	F	5000	6930				t t t								

Results flagged with an asterisk (\*) indicate values outside control criteria.

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RR142115 SuperSet Reference:

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394 Project:

Service Request: K1204583

Calibration Date: 04/05/2012

**Initial Calibration Summary** Polychlorinated Biphenyls (PCBs)

Calibration ID:

CAL11401

Instrument ID:

GC32.i

Column: DB-35MS

			Calibratio	n Evaluati	ion	
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	10.9		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	8.9		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	12.5		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	9.7		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	13.0		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	11.8		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	13.2		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	10.7		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	8.5		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	7.8		≤ 20

Results flagged with an asterisk (\*) indicate values outside control criteria.

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QA/QC Results

Client:

File ID:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 04/05/2012

Date Analyzed: 04/06/2012

Column ID: DB-35MS

**Second Source Calibration Verification** Polychlorinated Biphenyls (PCBs)

Calibration Type:

External Standard

8082A

Calibration ID: CAL11401

Analysis Method:

Units: ng/mL

 $\c h1\acqudata\GC32\Data\040512.b\0405F033.D$ 

 $\c h1\acqudata\GC32\Data\040512.b\0405F034.D$ 

\\cash1\acqudata\GC32\Data\040512.b\0405F035.D  $\c h1\acgudata\GC32\Data\040512.b\0405F036.D$  $\label{lem:cash1} $$ \operatorname{C32\Delta} \Delta (040512.b) 0405F037.D $$$ \\cash1\acqudata\GC32\Data\040512.b\0405F038.D

\\cash1\acqudata\GC32\Data\040512.b\0405F039.D  $\label{lem:cash1} $$ \operatorname{C32\Data}040512.b\0405F040.D $$$ \\cash1\acqudata\GC32\Data\040512.b\0405F041.D

SSV Average Curve Fit Criteria RF %Drift RF %D **Analyte Name** Expected Result 4 NA  $\pm 100 \%$ AverageRF 1000 1100 1130 Aroclor 1016 {1} 1000  $\pm 100 \%$ AverageRF 3 NA 3510 3620 1000 1000 Aroclor 1016 {2}  $\pm 100\%$ AverageRF NA 2 1000 1000 2370 2410 Aroclor 1016 {3} AverageRF -2 NA ± 100 % 1820 1850 1000 980 Aroclor 1016 {4} AverageRF NA  $\pm$  100 % 3 2000 1000 1940 Aroclor 1016 {5} 1000 2  $\pm$  20 % NA NA NA Aroclor 1016 1000 1000 NA  $\pm 100 \%$ AverageRF NA 3630 -6 1000 940 3870 Aroclor 1260 {1} AverageRF -7 NA  $\pm 100 \%$ 930 4930 4590 1000 Aroclor 1260 {2}  $\pm 100 \%$ AverageRF NA 4520 3800 -16 840 1000 Aroclor 1260 {3}  $\pm$  100 % AverageRF 11 NA 3630 1100 3280 1000 Aroclor 1260 {4}  $\pm$  100 % AverageRF NA 8160 8 7570 1100 Aroclor 1260 {5} 1000 ± 20 % NA NA -2 NA 1000 980 NA Aroclor 1260

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

**‡** CCC Compound

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QA/QC Results

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 04/05/2012

#### **Initial Calibration Summary** Polychlorinated Biphenyls (PCBs)

Calibration ID: Instrument ID:

CAL11401

GC32.i

Column: DB-XLB

Level ID	File ID	Level ID	File ID
	\\cash1\acqudata\GC32\Data\040512_r.b\0405F003.D	Q	\\cash1\acqudata\GC32\Data\040512_r.b\0405F019.D
A B	\\cash1\acqudata\\GC32\Data\040512_r.b\0405F004.D	R	\\cash1\acqudata\GC32\Data\040512_r.b\0405F020.D
D C	\\cash1\acqudata\GC32\Data\040512_r.b\0405F005.D	S	\\cash1\acqudata\GC32\Data\040512_r.b\0405F021.D
D	\\cash1\acqudata\GC32\\Data\040512_r.b\0405F006.D	Ť	\\cash1\acqudata\GC32\Data\040512_r.b\0405F022.D
E	\\cash1\acqudata\\GC32\\Data\040512_r.b\0405F007.D	Ū	\\cash1\acqudata\\GC32\Data\040512_r.b\0405F023.D
E E	\\cash1\acqudata\\GC32\\Data\040512_r.b\0405F008.D	V	\\cash1\acqudata\GC32\Data\040512_r.b\0405F024.D
r G	\\cash1\acqudata\\GC32\\Data\040512_r.b\0405F009.D	W	\\cash1\acqudata\GC32\Data\040512_r.b\0405F025 D
H	\\cash1\acqudata\\GC32\\Data\040512_r.b\0405F010.D	X	\cash1\acqudata\GC32\Data\040512_r.b\0405F026.D
11	\\cash1\acqudata\GC32\Data\040512_r.b\0405F011.D	Y	\cash1\acqudata\GC32\Data\040512_r.b\0405F027.D
T.	\\cash1\acqudata\GC32\Data\040512_r.b\0405F012.D	Z	\\cash1\acqudata\\GC32\Data\040512_r.b\0405F028.D
K	\\cash1\acqudata\GC32\Data\040512_r.b\0405F013.D	AA	\\cash1\acqudata\GC32\Data\040512_r.b\0405F029.D
1 %. Y	\\cash1\acqudata\\GC32\\Data\\040512_r.b\\0405F014.D	AB	\\cash1\acqudata\GC32\Data\040512_r.b\0405F030.D
M	\\cash1\acqudata\GC32\Data\040512_r.b\0405F015.D	AC	\cash1\acqudata\GC32\Data\040512_r.b\0405F031.D
N	\\cash1\acqudata\GC32\\Data\040512_r.b\0405F016.D	AD	\\cash1\acqudata\GC32\Data\040512_r.b\0405F032.D
O	\\cash1\acqudata\\GC32\\Data\040512_r.b\\0405F017.D		
D D	\\cash1\acqudata\GC32\\Data\040512 r.b\0405F018.D		

Analyte Name	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF	Level ID	Amt	RF
Decachlorobiphenyl	F	500	55000	В	5.0	90900	С	50	72900	D	100	66900	Е	200	62800
Aroclor 1016 {1}	A F	25 5000	2200 1880	В	50	2250	С	500	2300	D	1000	2170	E	2000	2040
Aroclor 1016 {2}	A F	25 5000	4030 3330	В	50	3870	С	500	3940	D	1000	3790	Е	2000	3520
Aroclor 1016 {3}	A F	25 5000	2050 1790	В	50	1950	С	500	2120	D	1000	2080	Е	2000	1940
Aroclor 1016 {4}	A F	25 5000	1880 1420	В	50	1840	С	500	1830	D	1000	1750	Е	2000	1590
Aroclor 1016 {5}	A F	25 5000	2020 1590	В	50	1990	С	500	2020	D	1000	1930	Е	2000	1770
Aroclor 1260 {1}	A F	25 5000	4790 3530	В	50	4590	С	500	4470	D	1000	4320	Е	2000	3840
Aroclor 1260 {2}	A F	25 5000	5680 4430	В	50	5780	С	500	5500	D	1000	5240	Е	2000	4740
Aroclor 1260 {3}	A F	25 5000	6620 5310	В	50	6570	С	500	6500	D	1000	6030	Е	2000	5630
Aroclor 1260 {4}	A F	25 5000	3560 2820	В	50	3530	С	500	3590	D	1000	3280	Е	2000	3080

Results flagged with an asterisk (\*) indicate values outside control criteria.

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RR142115 SuperSet Reference:

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QA/QC Results

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 04/05/2012

**Initial Calibration Summary** Polychlorinated Biphenyls (PCBs)

Calibration ID:

CAL11401

Instrument ID:

GC32.i

Column: DB-XLB

	Level	Level		Level			Level			Level	Level Leve				
Analyte Name	$\mathbf{m}$	Amt	RF	ID	Amt	RF	ID	Amt	RF	ID	Amt	RF	ID	Amt	RF
Aroclor 1260 {5}	Α	25	9190	В	50	8970	С	500	8180	D	1000	7530	Е	2000	7360
	F	5000	6930												

Results flagged with an asterisk (\*) indicate values outside control criteria.

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SuperSet Reference:

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 04/05/2012

**Initial Calibration Summary** Polychlorinated Biphenyls (PCBs)

Calibration ID:

CAL11401

Instrument ID:

GC32.i

Column: DB-XLB

l	
a	

			Calibratio	n Evaluat	ion	
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria
Decachlorobiphenyl	SURR	AverageRF	% RSD	19.4		≤ 20
Aroclor 1016 {1}	MULTI	AverageRF	% RSD	7.3		≤ 20
Aroclor 1016 {2}	MULTI	AverageRF	% RSD	7.2		≤ 20
Aroclor 1016 {3}	MULTI	AverageRF	% RSD	6.1		≤ 20
Aroclor 1016 {4}	MULTI	AverageRF	% RSD	10.5		≤ 20
Aroclor 1016 {5}	MULTI	AverageRF	% RSD	9.2		≤ 20
Aroclor 1260 {1}	MULTI	AverageRF	% RSD	11.3		≤ 20
Aroclor 1260 {2}	MULTI	AverageRF	% RSD	10.3		≤ 20
Aroclor 1260 {3}	MULTI	AverageRF	% RSD	9.0		≤ 20
Aroclor 1260 {4}	MULTI	AverageRF	% RSD	9.4		≤ 20
Aroclor 1260 {5}	MULTI	AverageRF	% RSD	11.4		≤ 20

Results flagged with an asterisk (\*) indicate values outside control criteria.

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SuperSet Reference:

RR142115

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 04/05/2012 Date Analyzed: 04/06/2012

**Second Source Calibration Verification** Polychlorinated Biphenyls (PCBs)

Calibration Type:

External Standard

Calibration ID: CAL11401

Analysis Method:

8082A

Units: ng/mL

Column ID: DB-XLB

 $\pm 20 \%$ 

NA

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Page

File ID:

Analyte Name

Aroclor 1016

Aroclor 1260

\\cash1\acqudata\GC32\Data\040512 r.b\0405F033.D

 $\c h1\acqudata\GC32\Data\040512 r.b\0405F034.D$ \\cash1\acqudata\GC32\Data\040512 r.b\0405F035.D

\\cash1\acqudata\GC32\Data\040512 r.b\0405F036.D \\cash1\acqudata\GC32\Data\040512 r.b\0405F037.D  $\c h \acqudata \GC32 \Data \040512 r.b \0405F039.D$ 

 $\label{lem:cash1} $$ \operatorname{C32\Data}040512_r.b\0405F040.D $$$ \\cash1\acqudata\GC32\Data\040512\_r.b\0405F041.D

1000

1000

NA

SSV Average Criteria Curve Fit RF %Drift RF %D Expected Result NA  $\pm 100 \%$ AverageRF 5 2140 2240 1000 1000 Aroclor 1016 {1}  $\pm 100 \%$ AverageRF NA 3880 4 1000 1000 3750 Aroclor 1016 {2}  $\pm 100 \%$ AverageRF 8 NA 1100 1990 2140 1000 Aroclor 1016 {3} NA  $\pm$  100 % AverageRF 1740 1 1720 1000 1000 Aroclor 1016 {4}  $\pm$  100 % AverageRF NA 1990 6 1100 1890 Aroclor 1016 {5} 1000 5 ± 20 % NA NA NA 1000 1000 NA  $\pm 100 \%$ AverageRF NA -3 4120 1000 970 4250 Aroclor 1260 {1} NA  $\pm 100 \%$ AverageRF -3 970 5230 5050 1000 Aroclor 1260 {2}  $\pm$  100 % AverageRF NA 6110 5440 -11 890 1000 Aroclor 1260 {3}  $\pm 100 \%$ AverageRF 15 NA 3820 1200 3310 1000 Aroclor 1260 {4} ± 100 % AverageRF NA 8530 6 8030 1100 Aroclor 1260 {5} 1000

NA

NA

1

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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SuperSet Reference: RR142115

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Date Analyzed: 05/26/2012

**Continuing Calibration Verification Summary** Polychlorinated Biphenyls (PCBs)

Calibration Type: Analysis Method:

External Standard

8082A

Calibration Date: 04/05/2012 Calibration ID: CAL11401

Analysis Lot: KWG1205561

Units: ng/mL

Column ID: DB-35MS

File ID:

 $\verb|\CASHI\ACQUDATA\GC32\DATA\052612.B\0526F025.D|$ 

			Average	CCV				
Analyte Name	Expected	Result	RF	RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	68800	69500	presson.	NA	$\pm~20~\%$	AverageRF
Aroclor 1016 {1}	1000	1100	1100	1150	5	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {2}	1000	970	3510	3400	-3	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	2370	2480	5	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {4}	1000	1100	1850	1970	6	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	1940	2010	3	NA	± 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	3	± 20 %	NA
Aroclor 1260 {1}	1000	1000	3870	3980	3	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	4930	4990	1	NA	± 100 %	AverageRF
Aroclor 1260 (2)	1000	1000	4520	4710	4	NA	± 100 %	AverageRF
Aroclor 1260 (3) Aroclor 1260 (4)	1000	1100	3280	3440	5	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	7570	7760	3	NA	± 100 %	AverageRF
Aroclor 1260 Aroclor 1260	1000	1000	NA	NA	NA	3	$\pm$ 20 %	NA

Results flagged with an asterisk (\*) indicate values outside control criteria.

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Date Analyzed: 05/26/2012

**Continuing Calibration Verification Summary** Polychlorinated Biphenyls (PCBs)

Calibration Type: Analysis Method:

External Standard

8082A

Calibration Date: 04/05/2012 Calibration ID: CAL11401

Analysis Lot: KWG1205561

Units: ng/mL

File ID:

\\CASH1\ACQUDATA\GC32\DATA\052612\_R.B\0526F025.D

Column ID: DB-XLB

Amakuta Nama	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Analyte Name	Expected	RESULE						
Decachlorobiphenyl	100	100	69700	70000	0	NA	± 20 %	AverageRF
Aroclor 1016 {1}	1000	1100	2140	2310	8	NA	$\pm 100 \%$	AverageRF
Aroclor 1016 {2}	1000	1100	3750	4100	9	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {3}	1000	1100	1990	2280	15	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 (4)	1000	1100	1720	1900	11	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	1890	2120	12	NA	± 100 %	AverageRF
Aroclor 1016 (3)	1000	1100	NA	NA	NA	11	± 20 %	NA
Aroclor 1260 {1}	1000	1100	4250	4550	7	NA	± 100 %	AverageRF
Aroclor 1260 {1}	1000	1100	5230	5580	7	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	6110	6450	6	NA	± 100 %	AverageRF
` '	1000	1100	3310	3530	7	NA	± 100 %	AverageRF
Aroclor 1260 {4}			8030	8080	1	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	1000			1			0
Aroclor 1260	1000	1100	NA	NA	NA	5	± 20 %	NA

Results flagged with an asterisk (\*) indicate values outside control criteria.

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SuperSet Reference:

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Now part of the ALS Group QA/QC Results

Client: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394 Project:

Service Request: K1204583 Date Analyzed: 05/26/2012

**Continuing Calibration Verification Summary** Polychlorinated Biphenyls (PCBs)

Calibration Date: 04/05/2012 External Standard Calibration Type:

Calibration ID: CAL11401 Analysis Method: 8082A

Analysis Lot: KWG1205561

Units: ng/mL

Column ID: DB-35MS \\CASH1\ACQUDATA\GC32\DATA\052612.B\0526F037.D File ID:

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	100	68800	69000	0	NA	± 20 %	AverageRF
Aroclor 1016 {1}	1000	1100	1100	1170	7	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	3510	3630	3	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	2370	2480	5	NA	$\pm~100~\%$	AverageRF
Aroclor 1016 {4}	1000	1100	1850	1970	6	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	1940	2020	4	NA	$\pm$ 100 %	AverageRF
Aroclor 1016	1000	1100	NA	NA	NA	5	± 20 %	NA
Aroclor 1260 {1}	1000	1000	3870	4000	3	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {1}	1000	1000	4930	5010	2	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 (2)	1000	1000	4520	4650	3	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	3280	3470	6	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 (1) Aroclor 1260 (5)	1000	1000	7570	7760	2	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 Aroclor 1260	1000	1000	NA	NA	NA	3	$\pm~20~\%$	NA

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Now part of the ALS Group QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

File ID:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/26/2012

**Continuing Calibration Verification Summary** Polychlorinated Biphenyls (PCBs)

Calibration Type: Analysis Method:

External Standard

8082A

Calibration Date: 04/05/2012

Calibration ID: CAL11401

Analysis Lot: KWG1205561

Units: ng/mL

\\CASH1\ACQUDATA\GC32\DATA\052612\_R.B\0526F037.D

Column ID: DB-XLB

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenvl	100	100	69700	71800	3	NA	$\pm$ 20 %	AverageRF
Aroclor 1016 {1}	1000	1100	2140	2310	8	NA	± 100 %	AverageRF
Aroclor 1016 {2}	1000	1100	3750	4060	8	NA	± 100 %	AverageRF
Aroclor 1016 {3}	1000	1100	1990	2260	14	NA	± 100 %	AverageRF
Aroclor 1016 {4}	1000	1100	1720	1890	10	NA	± 100 %	AverageRF
Aroclor 1016 {5}	1000	1100	1890	2090	11	NA	$\pm~100~\%$	AverageRF
Aroclor 1016	1000	1100	NA	NA	NA	10	$\pm$ 20 %	NA
Aroclor 1260 {1}	1000	1100	4250	4660	10	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1100	5230	5730	10	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1100	6110	6780	11	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	3310	3750	13	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	8030	8600	7	NA	± 100 %	AverageRF
Aroclor 1260	1000	1100	NA	NA	NA	10	± 20 %	NA

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SuperSet Reference:

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Now part of the ALS Group QA/QC Results

Client: Conestoga-Rovers & Associates, Incorpora

**Project:** Former Plainwell Mill/056394

Service Request: K1204583

Date Analyzed: 05/30/2012

Continuing Calibration Verification Summary Polychlorinated Biphenyls (PCBs)

Calibration Type:External StandardCalibration Date:04/05/2012Analysis Method:8082ACalibration ID:CAL11401

Analysis Lot: KWG1205873

Units: ng/mL

File ID: \\CASH1\ACQUDATA\GC32\DATA\052912A.B\0529F034.D Column ID: DB-35MS

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	96	68800	66200	-4	NA	± 20 %	AverageRF
Aroclor 1016 {1}	1000	1000	1100	1140	4	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {2}	1000	990	3510	3460	-1	NA	$\pm~100~\%$	AverageRF
Aroclor 1016 {3}	1000	1000	2370	2410	2	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	1850	1890	2	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	1940	1950	0	NA	$\pm$ 100 %	AverageRF
Aroclor 1016	1000	1000	NA	NA	NA	1	$\pm$ 20 %	NA
Aroclor 1260 {1}	1000	1000	3870	3900	1	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {2}	1000	990	4930	4880	-1	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {3}	1000	1000	4520	4650	3	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	3280	3380	3	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {5}	1000	1000	7570	7540	0	NA	$\pm$ 100 %	AverageRF
Aroclor 1260	1000	1000	NA	NA	NA	1	$\pm~20~\%$	NA

Results flagged with an asterisk (\*) indicate values outside control criteria.

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QA/QC Results

Client:

File ID:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Date Analyzed: 05/30/2012

**Continuing Calibration Verification Summary** Polychlorinated Biphenyls (PCBs)

Calibration Type:

External Standard

8082A

Calibration Date: 04/05/2012 Calibration ID: CAL11401

Analysis Lot: KWG1205873

Units: ng/mL

Column ID: DB-XLB

Analysis Method:

\\CASH1\ACQUDATA\GC32\DATA\052912A\_R.B\0529F034.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	110	69700	76600	10	NA	$\pm$ 20 %	AverageRF
Aroclor 1016 {1}	1000	1100	2140	2260	5	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	3750	3910	4	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {3}	1000	1100	1990	2220	12	NA	$\pm~100~\%$	AverageRF
Aroclor 1016 {4}	1000	1100	1720	1870	9	NA	$\pm~100~\%$	AverageRF
Aroclor 1016 {5}	1000	1100	1890	2080	10	NA	± 100 %	AverageRF
Aroclor 1016	1000	1100	NA	NA	NA	8	$\pm$ 20 %	NA
Aroclor 1260 {1}	1000	1100	4250	4590	8	NA	$\pm~100~\%$	AverageRF
Aroclor 1260 {2}	1000	1100	5230	5640	8	NA	± 100 %	AverageRF
Aroclor 1260 {3}	1000	1100	6110	6610	8	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1100	3310	3650	10	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {5}	1000	1100	8030	8490	6	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 Aroclor 1260	1000	1100	NA	NA	NA	8	± 20 %	NA

Results flagged with an asterisk (\*) indicate values outside control criteria.

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QA/QC Results

Client: Project:

File ID:

Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request: K1204583

Date Analyzed: 05/30/2012

**Continuing Calibration Verification Summary** Polychlorinated Biphenyls (PCBs)

Calibration Type:

External Standard

Analysis Method:

8082A

Calibration Date: 04/05/2012

Calibration ID: CAL11401

Analysis Lot: KWG1205873

Units: ng/mL

Column ID: DB-35MS

\\CASH1\ACQUDATA\GC32\DATA\052912A.B\0529F045.D

Analyte Name	Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Decachlorobiphenyl	100	95	68800	65600	-5	NA	± 20 %	AverageRF
Aroclor 1016 {1}	1000	1000	1100	1140	4	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {2}	1000	1000	3510	3500	0	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {3}	1000	1000	2370	2410	2	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {4}	1000	1000	1850	1900	2	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 {5}	1000	1000	1940	1940	0	NA	$\pm$ 100 %	AverageRF
Aroclor 1016 (5)	1000	1000	NA	NA	NA	1	$\pm$ 20 %	NA
Aroclor 1260 {1}	1000	1000	3870	3850	0	NA	$\pm$ 100 %	AverageRF
Aroclor 1260 {2}	1000	980	4930	4810	-2	NA	± 100 %	AverageRF
Aroclor 1260 {2}	1000	1000	4520	4500	0	NA	± 100 %	AverageRF
Aroclor 1260 {4}	1000	1000	3280	3340	2	NA	± 100 %	AverageRF
Aroclor 1260 {5}	1000	990	7570	7480	-1	NA	$\pm~100~\%$	AverageRF
Aroclor 1260	1000	990	NA	NA	NA	= 1	$\pm~20~\%$	NA

Results flagged with an asterisk (\*) indicate values outside control criteria.

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Now part of the ALS Group

QA/QC Results

Client: Project:

File ID:

Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request: K1204583

Date Analyzed: 05/30/2012

**Continuing Calibration Verification Summary** Polychlorinated Biphenyls (PCBs)

Calibration Type: **Analysis Method:** 

External Standard

8082A

Calibration Date: 04/05/2012 Calibration ID: CAL11401

Analysis Lot: KWG1205873

Units: ng/mL

Column ID: DB-XLB

\\CASH1\ACQUDATA\GC32\DATA\052912A\_R.B\0529F045.D

Expected	Result	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
100	99	69700	68700	-1	NA	$\pm$ 20 %	AverageRF
1000	1000	2140	2220	4	NA	$\pm$ 100 %	AverageRF
1000	1100	3750	3980	6	NA	± 100 %	AverageRF
1000	1100	1990	2200	11	NA	$\pm$ 100 %	AverageRF
1000	1100	1720	1840	7	NA	$\pm$ 100 %	AverageRF
1000	1100	1890	2050	9	NA	$\pm$ 100 %	AverageRF
1000	1100	NA	NA	NA	7	$\pm~20~\%$	NA
1000	1100	4250	4500	6	NA	$\pm$ 100 %	AverageRF
	1100	5230	5500	5	NA	$\pm~100~\%$	AverageRF
	1100	6110	6480	6	NA	± 100 %	AverageRF
		3310	3560	7	NA	$\pm$ 100 %	AverageRF
		8030	8290	3	NA	± 100 %	AverageRF
1000	1100	NA	NA	NA	6	$\pm$ 20 %	NA
	100 1000 1000 1000 1000 1000 1000 1000	100 99 1000 1000 1000 1100 1000 1100 1000 1100 1000 1100 1000 1100 1000 1100 1000 1100 1000 1100 1000 1100 1000 1100 1000 1100	Expected         Result         RF           100         99         69700           1000         1000         2140           1000         1100         3750           1000         1100         1990           1000         1100         1720           1000         1100         1890           1000         1100         NA           1000         1100         4250           1000         1100         5230           1000         1100         6110           1000         1100         3310           1000         1000         8030	Expected         Result         RF         RF           100         99         69700         68700           1000         1000         2140         2220           1000         1100         3750         3980           1000         1100         1990         2200           1000         1100         1720         1840           1000         1100         1890         2050           1000         1100         NA         NA           1000         1100         4250         4500           1000         1100         5230         5500           1000         1100         6110         6480           1000         1100         3310         3560           1000         1000         8030         8290	Expected         Result         RF         RF         %D           100         99         69700         68700         -1           1000         1000         2140         2220         4           1000         1100         3750         3980         6           1000         1100         1990         2200         11           1000         1100         1720         1840         7           1000         1100         1890         2050         9           1000         1100         NA         NA         NA           1000         1100         4250         4500         6           1000         1100         5230         5500         5           1000         1100         6110         6480         6           1000         1100         3310         3560         7           1000         1000         8030         8290         3	Expected         Result         RF         RF         %D         %Drift           100         99         69700         68700         -1         NA           1000         1000         2140         2220         4         NA           1000         1100         3750         3980         6         NA           1000         1100         1990         2200         11         NA           1000         1100         1720         1840         7         NA           1000         1100         1890         2050         9         NA           1000         1100         NA         NA         NA         NA           1000         1100         4250         4500         6         NA           1000         1100         5230         5500         5         NA           1000         1100         6110         6480         6         NA           1000         1100         3310         3560         7         NA           1000         1000         8030         8290         3         NA	Expected         Result         RF         RF         %D         %Drift         Criteria           100         99         69700         68700         -1         NA         ± 20 %           1000         1000         2140         2220         4         NA         ± 100 %           1000         1100         3750         3980         6         NA         ± 100 %           1000         1100         1990         2200         11         NA         ± 100 %           1000         1100         1720         1840         7         NA         ± 100 %           1000         1100         1890         2050         9         NA         ± 100 %           1000         1100         NA         NA         NA         NA         7         ± 20 %           1000         1100         4250         4500         6         NA         ± 100 %           1000         1100         5230         5500         5         NA         ± 100 %           1000         1100         6110         6480         6         NA         ± 100 %           1000         1000         3310         3560         7         NA

Results flagged with an asterisk (\*) indicate values outside control criteria.

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Now part of the ALS Group QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

# Analysis Run Log Polychlorinated Biphenyls (PCBs)

Analysis Method:

8082A

Analysis Lot: KWG1205561

Instrument ID: GC32.i
Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0526F001.D	Continuing Calibration Verification	KWG1205561-1	5/26/2012	01:45		5/26/2012	01:45
0526F002.D	Instrument Blank	KWG1205561-2	5/26/2012	02:15		5/26/2012	02:15
0526F003.D	ZZZZZZ	ZZZZZZ	5/26/2012	02:45		5/26/2012	02:45
0526F004.D	ZZZZZZ	ZZZZZZ	5/26/2012	03:14		5/26/2012	03:14
0526F005.D	ZZZZZZ	ZZZZZZ	5/26/2012	03:43		5/26/2012	03:43
0526F006.D	ZZZZZZ	ZZZZZZ	5/26/2012	04:12		5/26/2012	04:12
0526F007.D	ZZZZZZ	ZZZZZZ	5/26/2012	04:41		5/26/2012	04:41
0526F008.D	ZZZZZZ	ZZZZZZ	5/26/2012	05:10		5/26/2012	05:10
0526F009.D	ZZZZZZ	ZZZZZZ	5/26/2012	05:39		5/26/2012	05:39
0526F010.D	ZZZZZZ	ZZZZZZ	5/26/2012	06:08		5/26/2012	06:08
0526F011.D	ZZZZZZ	ZZZZZZ	5/26/2012	06:37		5/26/2012	06:37
0526F012.D	ZZZZZZ	ZZZZZZ	5/26/2012	07:06		5/26/2012	07:06
0526F013.D	Continuing Calibration Verification	KWG1205561-3	5/26/2012	07:35		5/26/2012	07:35
0526F014.D	Instrument Blank	KWG1205561-4	5/26/2012	08:04		5/26/2012	08:04
0526F015.D	· ZZZZZZ	ZZZZZZ	5/26/2012	08:33		5/26/2012	08:33
0526F016.D	ZZZZZZ	ZZZZZZ	5/26/2012	09:02		5/26/2012	09:02
0526F017.D	ZZZZZZ	ZZZZZZ	5/26/2012	09:31		5/26/2012	09:31
0526F018.D	ZZZZZZ	ZZZZZZ	5/26/2012	10:00		5/26/2012	10:00
0526F023.D	ZZZZZZ	ZZZZZZ	5/26/2012	12:26		5/26/2012	12:26
0526F024.D	ZZZZZZ	ZZZZZZ	5/26/2012	12:56		5/26/2012	12:56
0526F025.D	Continuing Calibration Verification	KWG1205561-5	5/26/2012	13:26		5/26/2012	13:26
0526F026.D	Instrument Blank	KWG1205561-6	5/26/2012	13:56		5/26/2012	13:56
0526F027.D	Batch QC	K1204775-006	5/26/2012	14:25		5/26/2012	14:25
0526F028.D	Batch QCMS	KWG1205367-1	5/26/2012	14:55		5/26/2012	14:55
0526F029.D	Batch QCDMS	KWG1205367-2	5/26/2012	15:24		5/26/2012	15:24
0526F030.D	ZZZZZZ	ZZZZZZ	5/26/2012	15:54		5/26/2012	15:54
0526F031.D	ZZZZZZ	ZZZZZZ	5/26/2012	16:23		5/26/2012	16:23
0526F032.D	ZZZZZZ	ZZZZZZ	5/26/2012			5/26/2012	16:53
0526F033.D	ZZZZZZ	ZZZZZZ	5/26/2012	17:23		5/26/2012	17:23
0526F034.D	ZZZZZZ	ZZZZZZ	5/26/2012	17:52		5/26/2012	17:52
0526F035.D	Lab Control Sample	KWG1205367-3	5/26/2012	18:22		5/26/2012	18:22
0526F036.D	Method Blank	KWG1205367-4	5/26/2012	18:51		5/26/2012	18:51
0526F037.D	Continuing Calibration Verification	KWG1205561-7	5/26/2012	19:20		5/26/2012	19:20
0526F038.D	Instrument Blank	KWG1205561-8	5/26/2012	19:49		5/26/2012	19:49

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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Now part of the ALS Group QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

# Analysis Run Log Polychlorinated Biphenyls (PCBs)

Analysis Method:

8082A

Analysis Lot: KWG1205561

Instrument ID: GC32.i

Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0526F039.D	ZZZZZZ	7.7.7.7.7.	5/26/2012	20:18		5/26/2012	20:18
0526F040.D	ZZZZZZ	ZZZZZZ	5/26/2012	20:47		5/26/2012	20:47
0526F041.D	ZZZZZZ	ZZZZZZ	5/26/2012	21:16		5/26/2012	21:16
0526F042.D	ZZZZZZ	ZZZZZZ	5/26/2012	21:46		5/26/2012	21:46
0526F043.D	ZZZZZZ	ZZZZZZ	5/26/2012	22:15		5/26/2012	22:15
0526F044.D	ZZZZZZ	ZZZZZZ	5/26/2012	22:44		5/26/2012	22:44
0526F045.D	ZZZZZZ	ZZZZZZ	5/26/2012	23:14		5/26/2012	23:14
0526F046.D	ZZZZZZ	ZZZZZZ	5/26/2012	23:43		5/26/2012	23:43
0526F047.D	ZZZZZZ	ZZZZZZ	5/27/2012	00:12		5/27/2012	00:12
0526F048.D	ZZZZZZ	ZZZZZZ	5/27/2012	00:41		5/27/2012	00:41
0526F049.D	Continuing Calibration Verification	KWG1205561-9	5/27/2012	01:10		5/27/2012	01:10
0526F050.D	Instrument Blank	KWG1205561-10	5/27/2012	01:39		5/27/2012	01:39
0526F051.D	ZZZZZZ	ZZZZZZ	5/27/2012	02:08		5/27/2012	02:08
0526F052.D	ZZZZZZ	ZZZZZZ	5/27/2012	02:37		5/27/2012	
0526F053.D	ZZZZZZ	ZZZZZZ	5/27/2012	03:06		5/27/2012	03:06
0526F054.D	ZZZZZZ	ZZZZZZ	5/27/2012	03:35		5/27/2012	03:35
0526F055.D	ZZZZZZ	ZZZZZZ	5/27/2012	04:04		5/27/2012	04:04
0526F056.D	ZZZZZZ	ZZZZZZ	5/27/2012	04:34		5/27/2012	
0526F057.D	ZZZZZZ	ZZZZZZ	5/27/2012	05:03		5/27/2012	05:03
0526F058.D	ZZZZZZ	ZZZZZZ	5/27/2012	05:32		5/27/2012	05:32
0526F059.D	ZZZZZZ	ZZZZZZ	5/27/2012	06:02		5/27/2012	06:02
0526F060.D	Continuing Calibration Verification	KWG1205561-11	5/27/2012	06:31		5/27/2012	06:31
0526F061.D	Instrument Blank	KWG1205561-12	5/27/2012	07:00		5/27/2012	07:00
0526F062.D	ZZZZZZ	ZZZZZZ	5/27/2012	07:29		5/27/2012	
0526F063.D	ZZZZZZ	ZZZZZZ	5/27/2012	07:59		5/27/2012	07:59
0526F064.D	ZZZZZZ	ZZZZZZ	5/27/2012	08:28		5/27/2012	08:28
0526F065.D	ZZZZZZ	ZZZZZZ	5/27/2012	08:58		5/27/2012	
0526F066.D	ZZZZZZ	ZZZZZZ	5/27/2012	09:27		5/27/2012	09:27
0526F067.D	ZZZZZZ	ZZZZZZ	5/27/2012			5/27/2012	
0526F069.D	ZZZZZZ	ZZZZZZ	5/27/2012			5/27/2012	1
0526F070.D	ZZZZZZ	ZZZZZZ	5/27/2012	11:23		5/27/2012	
0526F071.D	Continuing Calibration Verification	KWG1205561-13	5/27/2012	11:52		5/27/2012	ļ
0526F072.D	Instrument Blank	KWG1205561-14	5/27/2012	12:21		5/27/2012	
0526F073.D	ZZZZZZ	ZZZZZZ	5/27/2012	12:50		5/27/2012	12:50

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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Now part of the ALS Group QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Analysis Run Log Polychlorinated Biphenyls (PCBs)

Analysis Method:

8082A

Analysis Lot: KWG1205561

Instrument ID: GC32.i

Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0526F074.D	ZZZZZZ	ZZZZZZ	5/27/2012	13:20		5/27/2012	. 13:20
0526F075.D	ZZZZZZ	ZZZZZZ	5/27/2012	13:49		5/27/2012	13:49
0526F076.D	ZZZZZZ	ZZZZZZ	5/27/2012	14:18		5/27/2012	14:18
0526F077.D	ZZZZZZ	ZZZZZZ	5/27/2012	14:47		5/27/2012	14:47
0526F081.D	ZZZZZZ	ZZZZZZ	5/27/2012	16:46		5/27/2012	16:46
0526F082.D	Continuing Calibration Verification	KWG1205561-15	5/27/2012	17:15		5/27/2012	17:15
0526F083.D	Instrument Blank	KWG1205561-16	5/27/2012	17:44		5/27/2012	17:44
0526F084.D	ZZZZZZ	ZZZZZZ	5/27/2012	18:14		5/27/2012	18:14
0526F085.D	ZZZZZZ	ZZZZZZ	5/27/2012	18:44		5/27/2012	18:44
0526F086.D	ZZZZZZ	ZZZZZZ	5/27/2012	19:13		5/27/2012	19:13
0526F087.D	ZZZZZZ	ZZZZZZ	5/27/2012	19:43		5/27/2012	19:43
0526F088.D	ZZZZZZ	ZZZZZZ	5/27/2012	20:12		5/27/2012	20:12
0526F089.D	ZZZZZZ	ZZZZZZ	5/27/2012	20:41		5/27/2012	20:41
0526F090.D	Continuing Calibration Verification	KWG1205561-17	5/27/2012	21:10		5/27/2012	21:10
0526F091.D	Instrument Blank	KWG1205561-18	5/27/2012	21:39		5/27/2012	21:39

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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RR142115 SuperSet Reference:

Page

Now part of the ALS Group

QA/QC Results

Conestoga-Rovers & Associates, Incorpora

Client: Project:

Former Plainwell Mill/056394

Service Request: K1204583

# Analysis Run Log Polychlorinated Biphenyls (PCBs)

Analysis Method:

8082A

Analysis Lot: KWG1205873

Instrument ID: GC32.i

Column: DB-35MS

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0529F034.D	Continuing Calibration Verification	KWG1205873-1	5/30/2012	00:35		5/30/2012	00:35
0529F035.D	Instrument Blank	KWG1205873-2	5/30/2012	01:04		5/30/2012	01:04
0529F036.D	SO-56394-051112-EB-009	K1204583-002	5/30/2012	01:33		5/30/2012	01:33
0529F037.D	ZZZZZZ	ZZZZZZ	5/30/2012	02:02		5/30/2012	02:02
0529F038.D	ZZZZZZ	ZZZZZZ	5/30/2012	02:31		5/30/2012	02:31
0529F039.D	ZZZZZZ	ZZZZZZ	5/30/2012	03:00		5/30/2012	03:00
0529F040.D	ZZZZZZ	ZZZZZZ	5/30/2012	03:29		5/30/2012	03:29
0529F041.D	ZZZZZZ	ZZZZZZ	5/30/2012	03:58		5/30/2012	03:58
0529F042.D	ZZZZZZ	ZZZZZZ	5/30/2012	04:27		5/30/2012	04:27
0529F043.D	ZZZZZZ	ZZZZZZ	5/30/2012	04:56		5/30/2012	04:56
0529F044.D	ZZZZZZ	ZZZZZZ	5/30/2012	05:25		5/30/2012	05:25
0529F045.D	Continuing Calibration Verification	KWG1205873-3	5/30/2012	05:54		5/30/2012	05:54
0529F046.D	Instrument Blank	KWG1205873-4	5/30/2012	06:23		5/30/2012	06:23
0529F047.D	ZZZZZZ	ZZZZZZ	5/30/2012	06:53		5/30/2012	06:53
0529F048.D	ZZZZZZ	ZZZZZZ	5/30/2012	07:22		5/30/2012	07:22
0529F049.D	ZZZZZZ	ZZZZZZ	5/30/2012	07:51		5/30/2012	07:51
0529F050.D	ZZZZZZ	ZZZZZZ	5/30/2012	08:20		5/30/2012	08:20
0529F051.D	ZZZZZZ	ZZZZZZ	5/30/2012	08:49		5/30/2012	08:49
0529F052.D	ZZZZZZ	ZZZZZZ	5/30/2012	09:18		5/30/2012	09:18
0529F053.D	ZZZZZZ	ZZZZZZ	5/30/2012	09:47		5/30/2012	09:47
0529F054.D	ZZZZZZ	ZZZZZZ	5/30/2012	10:16		5/30/2012	10:16
0529F055.D	ZZZZZZ	ZZZZZZ	5/30/2012	10:45		5/30/2012	10:45
0529F056.D	Continuing Calibration Verification	KWG1205873-5	5/30/2012	11:14		5/30/2012	11:14
0529F057.D	Instrument Blank	KWG1205873-6	5/30/2012	11:43		5/30/2012	11:43
0529F058.D	ZZZZZZ	ZZZZZZ	5/30/2012	12:12		5/30/2012	12:12
0529F059.D	ZZZZZZ	ZZZZZZ	5/30/2012	12:42		5/30/2012	12:42
0529F060.D	ZZZZZZ	ZZZZZZ	5/30/2012	13:12		5/30/2012	13:12
0529F061.D	ZZZZZZ	ZZZZZZ	5/30/2012	13:41		5/30/2012	13:41
0529F062.D	ZZZZZZ	ZZZZZZ	5/30/2012	14:10		5/30/2012	14:10
0529F063.D	Continuing Calibration Verification	KWG1205873-7	5/30/2012	14:40		5/30/2012	14:40
0529F064.D	Instrument Blank	KWG1205873-8	5/30/2012	15:09		5/30/2012	15:09

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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SuperSet Reference: RR142115

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583 Date Extracted: 05/20/2012

**Extraction Prep Log** Polychlorinated Biphenyls (PCBs)

**Extraction Method:** EPA 3541

Analysis Method:

8082A

Extraction Lot: KWG1205367

Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
SO-56394-051112-EB-009	K1204583-002	05/11/12	05/12/12	40.083g	4mL	68.9	
Method Blank	KWG1205367-4	NA	NA	40.442g	4mL	NA	
Batch QC	K1204775-006	NA	NA	40.391g	4mL	81.6	
Batch QCMS	KWG1205367-1	NA	NA	40.039g	4mL	81.6	
Batch QCDMS	KWG1205367-2	NA	NA	40.047g	4mL	81.6	
Lab Control Sample	KWG1205367-3	NA	NA	20.000g	4mL	NA	

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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Now part of the ALS Group

Confirmation Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

**Date Collected:** 05/11/2012 **Date Received:** 05/12/2012

Date Extracted: 05/20/2012

Polychlorinated Biphenyls (PCBs)

Sample Name:

SO-56394-051112-EB-009

Lab Code:

K1204583-002

Extraction Method: EPA 3541

Analysis Method:

8082A

Units: ug/Kg Basis: Dry

Level: Low

Analyte Name	MRL	MDL	Primary Result	Confirmation Result	RPD	Q	Dilution Factor	Date Analyzed
Aroclor 1242	730	210	9900	11000	10.5	D	100	05/30/12

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RR142115

**Volatile Organic Compounds** 

# Organic Analysis: Volatile Organic Compounds

Summary Package

Sample and QC Results

Now part of the ALS Group

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request:

K1204583

# Cover Page - Organic Analysis Data Package Volatile Organic Compounds

Sample Name	Lab Code	Date Collected	Date Received
SO-56394-051112-EB-009	K1204583-002	05/11/2012	05/12/2012
SO-56394-051112-EB-009MS	KWG1205691-1	05/11/2012	05/12/2012

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Hully Du

06-05-2012

Name: HOLLY BUTCHEY

Title: Suents

Now part of the ALS Group

Analytical Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

**Date Collected:** 05/11/2012 **Date Received:** 05/12/2012

**Date Prepared:** 05/16/2012

# Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction Volatile Organic Compounds

Sample Name:

SO-56394-051112-EB-009

Lab Code:

K1204583-002

Preparation Method: Extraction Method:

EPA 1311ZHE EPA 5030B

Analysis Method:

8260C

Units: mg/L Basis: NA

Level: Low

				Regulatory	Dilution	Date	Date	
Analyte Name	Result	Q	MRL	Limit	Factor	Extracted	Analyzed	Note
Vinyl Chloride	ND	U	0.080	0.2	1	05/30/12	05/30/12	
1,1-Dichloroethene	ND	U	0.20	0.7	1	05/30/12	05/30/12	
2-Butanone (MEK)	ND	U	8.0	200	1	05/30/12	05/30/12	*
Chloroform	ND	U	0.20	6	1	05/30/12	05/30/12	
Carbon Tetrachloride	ND	U	0.20	0.5	1	05/30/12	05/30/12	
Benzene	ND	U	0.20	0.5	1	05/30/12	05/30/12	
1,2-Dichloroethane (EDC)	ND	U	0.20	0.5	1	05/30/12	05/30/12	
Trichloroethene (TCE)	ND	U	0.20	0.5	1	05/30/12	05/30/12	
Tetrachloroethene (PCE)	ND	U	0.20	0.7	1	05/30/12	05/30/12	
Chlorobenzene	ND	U	0.20	100	1	05/30/12	05/30/12	
1,4-Dichlorobenzene	ND	U	0.20	7.5	1	05/30/12	05/30/12	

<sup>\*</sup> See Case Narrative

	%Rec	Control	
Surrogate Name		Limits	Note
Dibromofluoromethane	79	73-122	Acceptable
Toluene-d8	90	65-144	Acceptable
4-Bromofluorobenzene	79	68-117	Acceptable

Comments:

SuperSet Reference:

Now part of the ALS Group

Analytical Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project: Sample Matrix: Former Plainwell Mill/056394

Soil

Service Request: K1204583

Date Collected: NA
Date Received: NA

**Date Prepared:** 05/16/2012

# Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction Volatile Organic Compounds

Sample Name:

Method Blank

Lab Code: KWC

KWG1205691-3

Preparation Method: Extraction Method:

EPA 1311ZHE EPA 5030B

Analysis Method:

8260C

Units: mg/L Basis: NA

Level: Low

				Regulatory	Dilution	Date	Date	
Analyte Name	Result	Q	MRL	Limit	Factor	Extracted	Analyzed	Note
Vinyl Chloride	ND	U	0.080	0.2	1	05/30/12	05/30/12	
1.1-Dichloroethene	ND	U	0.20	0.7	1	05/30/12	05/30/12	
2-Butanone (MEK)	ND	U	8.0	200	1	05/30/12	05/30/12	*
Chloroform	ND	U	0.20	6	1	05/30/12	05/30/12	
Carbon Tetrachloride	ND	U	0.20	0.5	1	05/30/12	05/30/12	
Benzene	ND	U	0.20	0.5	1	05/30/12	05/30/12	
1,2-Dichloroethane (EDC)	ND	U	0.20	0.5	1	05/30/12	05/30/12	
Trichloroethene (TCE)	ND	U	0.20	0.5	1	05/30/12	05/30/12	
Tetrachloroethene (PCE)	ND	U	0.20	0.7	1	05/30/12	05/30/12	
Chlorobenzene	ND	U	0.20	100	1	05/30/12	05/30/12	
1,4-Dichlorobenzene	ND	U	0.20	7.5	1	05/30/12	05/30/12	

<sup>\*</sup> See Case Narrative

Surrogate Name	%Rec	Control Limits	Note
Dibromofluoromethane	79	73-122	Acceptable
Toluene-d8	88	65-144	Acceptable
4-Bromofluorobenzene	76	68-117	Acceptable

Comments:

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Surrogate Recovery Summary

Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction

**Volatile Organic Compounds** 

Preparation Method: EPA 1311ZHE

**Extraction Method:** EPA 5030B

Analysis Method:

8260C

Units: PERCENT

Service Request: K1204583

Level: Low

Sample Name	Lab Code	<u>Sur1</u>	<u>Sur2</u>	Sur3
SO-56394-051112-EB-009	K1204583-002	79	90	79
Method Blank	KWG1205691-3	79	88	76
SO-56394-051112-EB-009MS	KWG1205691-1	88	92	82
Lab Control Sample	KWG1205691-2	88	91	82

Surrogate Recovery Control Limits (%)

Sur1 = Dibromofluoromethane Sur2 = Toluene-d8 Sur3 = 4-Bromofluorobenzene	73-122 65-144 68-117	

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

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Form 2A - Organic

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SuperSet Reference: RR142148

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/30/2012

Time Analyzed: 11:19

Internal Standard Area and RT Summary Volatile Organic Compounds

276,978

File ID:

J:\MS18\DATA\053012TCLP\0530F011.D

K1204583-002

Instrument ID: Analysis Method:

Associated Analyses Lab Control Sample

Method Blank

SO-56394-051112-EB-009MS

SO-56394-051112-EB-009

GC-MS 18

8260C

Lab Code: KWG1205690-2

9.38

Analysis Lot: KWG1205690

117,306

11.80

1 of 1

	Fluorobenz	ene	Chlorobenze	ne-d5	1,4-Dichlorobe	nzene-d4
	Area	RT	Area	$\underline{\mathbf{RT}}$	Area	$\underline{\mathbf{RT}}$
Results ==>	287,101	5.99	120,963	9.38	119,851	11.80
Upper Limit ==>	574,202	6.49	241,926	9.88	239,702	12.30
Lower Limit ==>	143,551	5.49	60,482	8.88	59,926	11.30
ICAL Result ==>	458,356	5.99	178,545	9.38	180,588	11.80
KWG1205691-2	290,216	5,99	117,904	9.38	123,173	11.80
KWG1205691-1	284,860	5.99	118,396	9.38	122,568	11.80
KWG1205691-3	285,875	5.99	120,515	9.38	122,396	11.80

113,588

5.99

Results flagged with an asterisk (\*) indicate values outside control criteria.

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Form 2B - Organic

Page SuperSet Reference: RR142148

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project: Sample Matrix:

Soil

Former Plainwell Mill/056394

Service Request: K1204583 **Date Prepared:** 05/16/2012 Date Extracted: 5/30/2012 **Date Analyzed:** 05/30/2012

Units: mg/L

Basis: NA

Level: Low

Extraction Lot: KWG1205691

**Matrix Spike Summary** 

Toxicity Characteristic Leaching Procedure (TCLP) using Zero Headspace Extraction

Volatile Organic Compounds

Sample Name:

SO-56394-051112-EB-009

Lab Code:

K1204583-002

Preparation Method: EPA 1311ZHE

Extraction Method: EPA 5030B Analysis Method:

8260C

SO-56394-051112-EB-009

MS

KWG1205691-1

	Sample	N	Aatrix Spike		%Rec
Analyte Name	Result	Result	Expected	%Rec	Limits
Vinyl Chloride	ND	3.37	4.00	84	49-136
1,1-Dichloroethene	ND	4.32	4.00	108	59-171
2-Butanone (MEK)	ND	18.2	20.0	91	65-147
Chloroform	ND	4.28	4.00	107	64-133
Carbon Tetrachloride	ND	3.88	4.00	97	53-161
Benzene	ND	3.76	4.00	94	63-144
1,2-Dichloroethane (EDC)	ND	4.89	4.00	122	56-141
Trichloroethene (TCE)	ND	3.80	4.00	95	53-139
Tetrachloroethene (PCE)	ND	3.70	4.00	93	61-131
Chlorobenzene	ND	3.78	4.00	95	69-126
1,4-Dichlorobenzene	ND	3.93	4.00	98	72-121

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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SuperSet Reference: RR142148

Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project: Sample Matrix:

Soil

Former Plainwell Mill/056394

Service Request: K1204583 **Date Prepared:** 05/16/2012 Date Extracted: 05/30/2012

**Date Analyzed:** 05/30/2012

Lab Control Spike Summary Volatile Organic Compounds

Extraction Method: EPA 1311ZHE/EPA 5030B

Analysis Method:

8260C

Units: mg/L Basis: NA

Level: Low

Extraction Lot: KWG1205691

Lab Control Sample KWG1205691-2 Lab Control Spike

	A./64 L/	Common opin		%Rec
Analyte Name	Result	Expected	%Rec	Limits
Vinyl Chloride	3.17	4.00	79	55-123
1,1-Dichloroethene	4.04	4.00	101	66-129
2-Butanone (MEK)	18.3	20.0	92	71-149
Chloroform	4.16	4.00	104	70-129
Carbon Tetrachloride	3.63	4.00	91	55-140
Benzene	3.63	4.00	91	69-124
1,2-Dichloroethane (EDC)	4.86	4.00	122	56-142
Trichloroethene (TCE)	3.69	4.00	92	67-128
Tetrachloroethene (PCE)	3.60	4.00	90	62-126
Chlorobenzene	3.70	4.00	93	72-116
1,4-Dichlorobenzene	3.81	4.00	95	73-115

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

Date Extracted: 05/30/2012 **Date Analyzed:** 05/30/2012

Time Analyzed: 14:34

Method Blank Summary Volatile Organic Compounds

Sample Name:

Method Blank

Lab Code:

KWG1205691-3

**Extraction Method: Analysis Method:** 

EPA 5030B

8260C

Instrument ID: GC-MS 18

File ID: J:\MS18\DATA\053012TCLP\0530F020.D

Level: Low

Extraction Lot: KWG1205691

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Analyzed	Analyzed
Lab Control Sample	KWG1205691-2	J:\MS18\DATA\053012TCLP\0530F013.D	05/30/12	12:04
SO-56394-051112-EB-009MS	KWG1205691-1	J:\MS18\DATA\053012TCLP\0530F014.D	05/30/12	12:26
SO-56394-051112-EB-009	K1204583-002	J:\MS18\DATA\053012TCLP\0530F021.D	05/30/12	14:56

Printed: 06/05/2012 14:23:30

Form 4A - Organic

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SuperSet Reference:

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project: Sample Matrix:

Soil

Former Plainwell Mill/056394

Service Request: K1204583 Date Extracted: 05/30/2012 **Date Analyzed:** 05/30/2012

Time Analyzed: 12:04

Lab Control Sample Summary Volatile Organic Compounds

Sample Name: Lab Code:

Lab Control Sample

KWG1205691-2

**Extraction Method: Analysis Method:** 

EPA 5030B 8260C

Instrument ID: GC-MS 18

File ID: J:\MS18\DATA\053012TCLP\0530F013.D

Level: Low

Extraction Lot: KWG1205691

This Lab Control Sample applies to the following analyses:

			Date	Time
Sample Name	Lab Code	File ID	Analyzed	Analyzed
SO-56394-051112-EB-009MS	KWG1205691-1	J:\MS18\DATA\053012TCLP\0530F014.D	05/30/12	12:26
Method Blank	KWG1205691-3	J:\MS18\DATA\053012TCLP\0530F020.D	05/30/12	14:34
SO-56394-051112-EB-009	K1204583-002	J:\MS18\DATA\053012TCLP\0530F021.D	05/30/12	14:56

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/30/2012

Time Analyzed: 10:54

**PASS** 

**PASS** 

PASS

2195

32533

66

**Tune Summary** Volatile Organic Compounds

File ID:

J:\MS18\DATA\053012TCLP\0530F010.D

Instrument ID:

96

173

174

5

0

50

Column:

GC-MS 18

95

174

95

Analysis Method: 8260C

Analysis Lot: KWG1205690

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail	
175	174	5	9	8.0	2597	PASS	
176	174	95	101	100.6	32712	PASS	
177	176	5	9	6.3	2052	PASS	
50	95	15	40	19.4	6604	PASS	
75	95	30	60	52.7	17919	PASS	
. 95	95	100	100	100.0	34032	PASS	

		Date	Time	
Lab Code	File ID	Analyzed	Analyzed	Q
KWG1205690-2	J:\MS18\DATA\053012TCLP\0530F011.D	05/30/2012	11:19	
KWG1205691-2	J:\MS18\DATA\053012TCLP\0530F013.D	05/30/2012	12:04	
KWG1205691-1	J:\MS18\DATA\053012TCLP\0530F014.D	05/30/2012	12:26	
KWG1205691-3	J:\MS18\DATA\053012TCLP\0530F020.D	05/30/2012	14:34	
K1204583-002	J:\MS18\DATA\053012TCLP\0530F021.D	05/30/2012	14:56	
	KWG1205690-2 KWG1205691-2 KWG1205691-1 KWG1205691-3	KWG1205690-2 J:\MS18\DATA\053012TCLP\0530F011.D KWG1205691-2 J:\MS18\DATA\053012TCLP\0530F013.D KWG1205691-1 J:\MS18\DATA\053012TCLP\0530F014.D KWG1205691-3 J:\MS18\DATA\053012TCLP\0530F020.D	Lab Code         File ID         Analyzed           KWG1205690-2         J:\MS18\DATA\053012TCLP\0530F011.D         05/30/2012           KWG1205691-2         J:\MS18\DATA\053012TCLP\0530F013.D         05/30/2012           KWG1205691-1         J:\MS18\DATA\053012TCLP\0530F014.D         05/30/2012           KWG1205691-3         J:\MS18\DATA\053012TCLP\0530F020.D         05/30/2012	Lab Code         File ID         Analyzed         Analyzed           KWG1205690-2         J:\MS18\DATA\053012TCLP\0530F011.D         05/30/2012         11:19           KWG1205691-2         J:\MS18\DATA\053012TCLP\0530F013.D         05/30/2012         12:04           KWG1205691-1         J:\MS18\DATA\053012TCLP\0530F014.D         05/30/2012         12:26           KWG1205691-3         J:\MS18\DATA\053012TCLP\0530F020.D         05/30/2012         14:34

9

2

120

6.4

0.2

95.6

Results flagged with an asterisk (\*) indicate the analysis performed outside specified tune window

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Form 5 - Organic

580

RR142148 SuperSet Reference:

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583 Calibration Date: 05/21/2012

**Initial Calibration Summary** Volatile Organic Compounds

Calibration ID:

CAL11549

Column: MS

Instrument ID:

GC-MS 18

Level ID	File ID	Level ID	File ID
A	J:\MS18\DATA\052112\0521F008.D	G	J:\MS18\DATA\052112\0521F014.D
В	J:\MS18\DATA\052112\0521F009.D	H	J:\MS18\DATA\052112\0521F015.D
C	J:\MS18\DATA\052112\0521F010.D	I	J:\MS18\DATA\052112\0521F016.D
D	J:\MS18\DATA\052112\0521F011.D	J	J:\MS18\DATA\052112\0521F017.D
Ē	J;\MS18\DATA\052112\0521F012.D	K	J:\MS18\DATA\052112\0521F018.D
F	J:\MS18\DATA\052112\0521F013.D		

	Level			Level			Level			Level			Level		
Analyte Name	ID	Amt	RRF	$\mathbf{m}$	Amt	RRF	$\mathbf{ID}$	Amt	RRF	$\mathbf{m}$	Amt	RRF	ID	Amt	RRF
Vinyl Chloride	А	0.10	0.341	В	0.20	0.362	С	0.50	0.354	D	1.0	0.358	Е		0.331
	F	5.0	0.394	G	10	0.368	Н	20	0.389	I	40	0.394	J	60	0.387
	K	80	0.395	4 1 1			1								
1,1-Dichloroethene				В	0.20	0.213	С	0.50	0.194	D	1.0	0.211	Е	2.0	0.192
-,	F	5.0	0.204	G	10	0.194	Н	20	0.209	I	40	0.213	J	60	0.209
	K	80	0.215	1			} f f i								
2-Butanone (MEK)	А	4.0	0.0214	В	8.0	0.0187	С	20	0.0191	D	40	0.0202	Е		0.0196
	F	100	0.0197	G	200	0.0198	Н	400	0.0200	I	800	0.0206	J	1600	0.0210
	K	2000	0.0204				i i								
Chloroform	A	0.10	0.554	В	0.20	0.533	С	0.50	0.504	D	1.0	0.499	Е	2.0	0.471
Chiorotorin	F	5.0	0.501	G	10	0.496	Н	20	0.494	I	40	0.504	J	60	0.498
	K	80	0.499				: : :						r - -		
Carbon Tetrachloride	А	0.10	0.316	В	0.20	0.318	С	0.50	0.322	D		0.340	Е	2.0	
	F	5.0	0.353	G	10	0.331	Н	20	0.355	I	40	0.375	J	60	0.373
	K	80	0.385				# # #						1 6 6		
Benzene	А	0.10	1.41	В	0.20	1.28	С	0.50	1.26	D	1.0	1.27	Е	2.0	1.21
	F	5.0	1.30	G	10	1.26	Н	20	1.26	I	40	1.30	J	60	1.29
	K	80	1.30	1			 								
1,2-Dichloroethane (EDC)	А	0.10	0.401	В	0.20	0.364	С	0.50	0.337	D	1.0		Е	2.0	
-,	F	5.0	0.353	G	10	0.353	Н	20	0.345	I	40	0.353	J	60	0.353
	K	80	0.347	1			!						• 		
Trichloroethene (TCE)	A	0.10	0.377	В	0.20	0.287	С	0.50	0.284	D	1.0	0.300	Е	2.0	
(1 0=)	F	5.0	0.303	G	10	0.291	Н	20	0.301	I	40	0.307	J	60	0.307
	K	80	0.312				† 						t < ?		
Tetrachloroethene (PCE)	А	0.10	0.672	В	0.20	0.663	С	0.50	0.645	D	1.0	0.656	Е	2.0	0.615
,	F	5.0	0.677	G	10	0.627	Н	20	0.667	I	40	0.698	J	60	0.688
	K	80	0.713	8 6 8			4 > 1			1					
Chlorobenzene	А	0.10	2.26	В	0.20	2.34	С	0.50	2.32	D	1.0	2.34	Е	2.0	2.29
	F	5.0	2.39	G	10	2.37	Н	20	2.33	I	40	2.40	J	60	2.37
	K	80	2.38				1						 		

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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SuperSet Reference: RR142148

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

**Project:** Former Plainwell Mill/056394

Service Request: K1204583
Calibration Date: 05/21/2012

**Initial Calibration Summary Volatile Organic Compounds** 

Calibration ID: Instrument ID:

CAL11549

.

GC-MS 18

Column: MS

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
1,4-Dichlorobenzene	Α	0.10	2.04	В	0.20	1.98	С	0.50	1.96	D	1.0	1.86	Е	2.0	1.85
-,	F	5.0	1.94	G	10	1.95	Н	20	1.89	I	40	1.94	J	60	1.93
	K	80	1.91	1			1			1					
Dibromofluoromethane	Α	3.0	0.262	В	4.0	0.266	С	5.0	0.248	D	6.0	0.260	E	7.0	0.229
	F	8.0	0.264	G	10	0.267	Н	15	0.268	I	20	0.265	J	30	0.271
	K	40	0.264												
Toluene-d8	A	3.0	1.07	В	4.0	1.14	C	5.0	1.05	D	6.0	1.13	Е	7.0	0.913
	F	8.0	1.11	G	10	1.08	Н	15	1.08	I	20	1.04	J	30	1.08
	K	40	1.06	:						1 2 2					
4-Bromofluorobenzene	Α	3.0	1.07	В	4.0	1.16	C	5.0	1.06	D	6.0	1.09	E	7.0	1.01
	F	8.0	1.10	G	10	1.10	Н	15	1.09	I	20	1.06	J	30	1.07
	K	40	1.06	1 1 1			1			1					

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6A - Organic

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SuperSet Reference: RR142148

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/21/2012

**Initial Calibration Summary Volatile Organic Compounds** 

Calibration ID:

CAL11549

Instrument ID:

GC-MS 18

Column: MS

			Calibratio	n Evaluat		RRF	Evalu	ation	
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Vinyl Chloride	MS	AverageRF	% RSD	6.2		≤ 20	0.370		0.1
1,1-Dichloroethene	MS	AverageRF	% RSD	4.2		≤ 20	0.205		0.1
2-Butanone (MEK)	MS	AverageRF	% RSD	4.0		≤ 20	0.0201		0.01
Chloroform	MS	AverageRF	% RSD	4.3		≤ 20	0.505		0.2
Carbon Tetrachloride	MS	AverageRF	% RSD	8.0		≤ 20	0.343		0.1
Benzene	MS	AverageRF	% RSD	3.8		≤ 20	1.29		0.5
1,2-Dichloroethane (EDC)	MS	AverageRF	% RSD	5.0		≤ 20	0.353		0.1
Trichloroethene (TCE)	MS	AverageRF	% RSD	8.6		≤ 20	0.304		0.2
Tetrachloroethene (PCE)	MS	AverageRF	% RSD	4.4		≤ 20	0.666		0.2
Chlorobenzene	MS	AverageRF	% RSD	1.8		≤ 20	2.35		0.5
1,4-Dichlorobenzene	MS	AverageRF	% RSD	2.8		≤ 20	1.93		0.5
Dibromofluoromethane	SURR	AverageRF	% RSD	4.6		≤ 20	0.260		0.01
Toluene-d8	SURR	AverageRF	% RSD	5.6		≤ 20	1.07		0.01
4-Bromofluorobenzene	SURR	AverageRF	% RSD	3.5		≤ 20	1.08		0.01

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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SuperSet Reference: RR142148

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/21/2012

Date Analyzed: 05/22/2012

**Second Source Calibration Verification Volatile Organic Compounds** 

Calibration Type:

Internal Standard

Calibration ID: CAL11549

Units: PPB

Analysis Method:

File ID:

8260C

J:\MS18\DATA\052112\0521F024.D

J:\MS18\DATA\052212\0522F004.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Vinyl Chloride	10	9.4	0.370	0.347	-6	NA	± 30 %	AverageRF
1.1-Dichloroethene	10	11	0.205	0.229	11	NA	± 30 %	AverageRF
2-Butanone (MEK)	50	46	0.0201	0.0186	-7	NA	± 30 %	AverageRF
Chloroform	10	9.6	0.505	0.487	-4	NA	± 30 %	AverageRF
Carbon Tetrachloride	10	9.5	0.343	0.327	-5	NA	± 30 %	AverageRF
Benzene	10	9.6	1.29	1.24	-4	NA	± 30 %	AverageRF
1.2-Dichloroethane (EDC)	10	9.3	0.353	0.329	-7	NA	± 30 %	AverageRF
Trichloroethene (TCE)	10	9.2	0.304	0.281	-8	NA -	± 30 %	AverageRF
Tetrachloroethene (PCE)	10	9.5	0.666	0.632	-5	NA	± 30 %	AverageRF
Chlorobenzene	10	9.5	2.35	2.23	-5	NA	± 30 %	AverageRF
1,4-Dichlorobenzene	10	9.4	1.93	1.82	<b>-</b> 6	NA	± 30 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6B - Organic

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RR142148

SuperSet Reference:

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/30/2012

**Continuing Calibration Verification Summary** Volatile Organic Compounds

Calibration Type:

Internal Standard

Calibration Date: 05/21/2012

Analysis Method:

8260C

Calibration ID: CAL11549

Analysis Lot: KWG1205690

Units: PPB

File ID:

J:\MS18\DATA\053012TCLP\0530F011.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Vinyl Chloride	10	9.2	0.1	0.370	0.342	-8	NA	± 20 %	AverageRF
1.1-Dichloroethene	10	8.9	0.1	0.205	0.184	-11	NA	± 20 %	AverageRF
2-Butanone (MEK)	200	150	0.01	0.0201	0.0153	-24 *	NA	± 20 %	AverageRF
Chloroform	10	10	0.2	0.505	0.526	4	NA	± 20 %	AverageRF
Carbon Tetrachloride	10	9.5	0.1	0.343	0.325	-5	NA	± 20 %	AverageRF
Benzene	10	9.2	0.5	1.29	1.18	-8	NA	± 20 %	AverageRF
1,2-Dichloroethane (EDC)	10	12	0.1	0.353	0.423	20	NA	± 20 %	AverageRF
Trichloroethene (TCE)	10	9.4	0.2	0.304	0.286	-6	NA	± 20 %	AverageRF
Tetrachloroethene (PCE)	10	9.2	0.2	0.666	0.611	-8	NA	$\pm$ 20 %	AverageRF
Chlorobenzene	10	9.1	0.5	2.35	2.14	<b>-</b> 9	NA	$\pm$ 20 %	AverageRF
1,4-Dichlorobenzene	10	9.8	0.5	1.93	1.90	-2	NA	± 20 %	AverageRF
Dibromofluoromethane	10	8.8	0.01	0.260	0.229	-12	NA	± 20 %	AverageRF
Toluene-d8	10	9.3	0.01	1.07	0.994	-7	NA	± 20 %	AverageRF
4-Bromofluorobenzene	10	8.1	0.01	1.08	0.878	-19	NA	± 20 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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SuperSet Reference:

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Analysis Run Log Volatile Organic Compounds

Analysis Method:

8260C

Analysis Lot: KWG1205690

Instrument ID: GC-MS 18

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0530F010.D	GC/MS Tuning - Generic	KWG1205690-1	5/30/2012	10:54		5/30/2012	11:10
0530F011.D	Continuing Calibration Verification	KWG1205690-2	5/30/2012	11:19		5/30/2012	11:35
0530F013.D	Lab Control Sample	KWG1205691-2	5/30/2012	12:04		5/30/2012	12:20
0530F014.D	SO-56394-051112-EB-009MS	KWG1205691-1	5/30/2012	12:26		5/30/2012	12:42
0530F020.D	Method Blank	KWG1205691-3	5/30/2012	14:34		5/30/2012	14:50
0530F021.D	SO-56394-051112-EB-009	K1204583-002	5/30/2012	14:56		5/30/2012	15:12

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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SuperSet Reference: RR142148

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

**Date Prepared:** 05/16/2012

Date Extracted: 05/30/2012

**Extraction Prep Log Volatile Organic Compounds** 

Preparation Method: EPA 1311ZHE

Extraction Lot: KWG1205691

Level: Low

Extraction Method: EPA 5030B 8260C Analysis Method:

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
SO-56394-051112-EB-009	K1204583-002	05/11/12	05/12/12	125uL	50ml	NA	
Method Blank	KWG1205691-3	NA	NA	125uL	50ml	NA	
SO-56394-051112-EB-009MS	KWG1205691-1	05/11/12	05/12/12	125uL	50ml	NA	
Lab Control Sample	KWG1205691-2	NA	NA	125uL	50ml	NA	

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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Form 9 - Organic

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Page

**Semi-Volatile Organic Compounds** 

# Organic Analysis: <a href="Semi-Volatile Organic Compounds">Semi-Volatile Organic Compounds by GC/MS</a>

Summary Package

Sample and QC Results

Now part of the ALS Group

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

**Service Request:** 

K1204583

Cover Page - Organic Analysis Data Package Semi-Volatile Organic Compounds by GC/MS

Sample Name	Lab Code	Date Collected	Date Received
SO-56394-051112-EB-009	K1204583-002	05/11/2012	05/12/2012
SO-56394-051112-EB-009MS	KWG1205236-1	05/11/2012	05/12/2012

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature:

Date: 5/29/12

Name: Carl Degree

Title: Swa Syans

Cover Page - Organic 828

Page 1 of

SuperSet Reference:

RR141850

Now part of the ALS Group

Analytical Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

Date Collected: 05/11/2012

**Date Received:** 05/12/2012 **Date Prepared:** 05/17/2012

# Toxicity Characteristic Leaching Procedure (TCLP) Semi-Volatile Organic Compounds by GC/MS

Sample Name:

SO-56394-051112-EB-009

Lab Code:

K1204583-002

**Preparation Method:** 

EPA 1311 EPA 3510C

**Extraction Method: Analysis Method:** 

8270D

Units: mg/L Basis: NA

Level: Low

				Regulatory	Dilution	Date	Date	
Analyte Name	Result	Q	MRL	Limit	Factor	Extracted	Analyzed	Note
Pyridine	ND	U	0.50	5	1	05/18/12	05/21/12	
2-Methylphenol	ND	U	0.10	200	Ĭ	05/18/12	05/21/12	
Hexachloroethane	ND	U	0.10	3	1	05/18/12	05/21/12	
4-Methylphenol†	ND	U	0.10	200	1	05/18/12	05/21/12	
Nitrobenzene	ND	U	0.10	2	1	05/18/12	05/21/12	
Hexachlorobutadiene	ND	U	0.10	0.5	1	05/18/12	05/21/12	
2,4,6-Trichlorophenol	ND	U	0.10	2	1	05/18/12	05/21/12	
2,4,5-Trichlorophenol	ND	U	0.10	400	1	05/18/12	05/21/12	
2,4-Dinitrotoluene	ND	U	0.10	0.13	1	05/18/12	05/21/12	
Hexachlorobenzene	ND	U	0.10	0.13	1	05/18/12	05/21/12	
Pentachlorophenol	ND	U	0.25	100	1	05/18/12	05/21/12	

Surrogate Name	%Rec	Control Limits	Note	
Sui logate Ivaine				
2-Fluorophenol	76	45-105	Acceptable	
Phenol-d6	70	35-105	Acceptable	
Nitrobenzene-d5	96	45-122	Acceptable	
2-Fluorobiphenyl	78	44-114	Acceptable	
2,4,6-Tribromophenol	92	52-122	Acceptable	
Terphenyl-d14	91	50-145	Acceptable	

#### † Analyte Comments

4-Methylphenol

This analyte cannot be separated from 3-Methylphenol.

Comments:

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Merged

829

SuperSet Reference: RR141850

Now part of the ALS Group

Analytical Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project: Sample Matrix: Former Plainwell Mill/056394 Water

Service Request: K1204583

Date Collected: NA Date Received: NA

**Date Prepared:** 05/17/2012

# **Toxicity Characteristic Leaching Procedure (TCLP)** Semi-Volatile Organic Compounds by GC/MS

Sample Name:

Method Blank

Lab Code:

KWG1205236-6

Units: mg/L Basis: NA

**Preparation Method: Extraction Method:** 

EPA 1311

Level: Low

**Analysis Method:** 

EPA 3510C

8270D

Analyte Name	Result	Q	MRL	Regulatory Limit	Dilution Factor	Date Extracted	Date Analyzed	Note
Pyridine	ND	U	0.50	5	1	05/18/12	05/21/12	
2-Methylphenol	ND	U	0.10	200	96-000	05/18/12	05/21/12	
Hexachloroethane	ND	U	0.10	3		05/18/12	05/21/12	
4-Methylphenol†	ND	U	0.10	200	l	05/18/12	05/21/12	
Nitrobenzene	ND	U	0.10	2	1	05/18/12	05/21/12	
Hexachlorobutadiene	ND	U	0.10	0.5	1	05/18/12	05/21/12	
2,4,6-Trichlorophenol	ND	U	0.10	2	1	05/18/12	05/21/12	
2,4,5-Trichlorophenol	ND	U	0.10	400	1	05/18/12	05/21/12	
2,4-Dinitrotoluene	ND	U	0.10	0.13	1	05/18/12	05/21/12	
Hexachlorobenzene	ND	U	0.10	0.13	1	05/18/12	05/21/12	
Pentachlorophenol	ND	U	0.25	100	1	05/18/12	05/21/12	

Surrogate Name	%Rec	Control Limits	Note	
2-Fluorophenol	75	45-105	Acceptable	
Phenol-d6	68	35-105	Acceptable	
Nitrobenzene-d5	95	45-122	Acceptable	
2-Fluorobiphenyl	75	44-114	Acceptable	
2,4,6-Tribromophenol	87	52-122	Acceptable	
Terphenyl-d14	89	50-145	Acceptable	

# † Analyte Comments

4-Methylphenol

This analyte cannot be separated from 3-Methylphenol.

Comments:

Printed: 05/29/2012 14:08:32

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

**Surrogate Recovery Summary Toxicity Characteristic Leaching Procedure (TCLP)** Semi-Volatile Organic Compounds by GC/MS

Preparation Method: EPA 1311 Extraction Method: EPA 3510C

Analysis Method:

8270D

Units: PERCENT

Service Request: K1204583

Level: Low

Allaiysis victiou.	02.02	
Sample Name		Lab Code
		**********

Sample Name	Lab Code	Sur1	Sur2	Sur3	Sur4	<u>Sur5</u>	<u>Sur6</u>
SO-56394-051112-EB-009	K1204583-002	76	70	96	78	92	91
Method Blank	KWG1205236-6	75	68	95	75	87	89
SO-56394-051112-EB-009MS	KWG1205236-1	77	72	90	81	83	98
Lab Control Sample	KWG1205236-5	82	74	85	81	81	104

Surrogate Recovery Control Limits (%)

5			
Sur1 = 2-Fluorophenol	45-105	Sur5 = 2,4,6-Tribromophenol	52-122
Sur2 = Phenol-d6	35-105	Sur6 = Terphenyl-d14	50-145
Sur3 = Nitrobenzene-d5	45-122		
Sur4 = 2-Fluorobiphenyl	44-114		

Results flagged with an asterisk (\*) indicate values outside control criteria. Results flagged with a pound (#) indicate the control criteria is not applicable.

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SuperSet Reference:

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/21/2012 Time Analyzed: 12:13

**Internal Standard Area and RT Summary** Semi-Volatile Organic Compounds by GC/MS

File ID:

J:\MS08\DATA\052112\0521F003.D

Lab Code: KWG1205311-2

Instrument ID:

MS08

**Analysis Method:** 

8270D

Analysis Lot: KWG1205311

		1,4-Dichlorober	nzene-d4	Naphthaler	ne-d8	Acenaphthe	ne-d10
		Area	RT	Area	RT	Area	$\underline{\mathbf{RT}}$
	Results ==>	91,693	9.03	270,639	11.13	128,505	13.97
	Upper Limit ==>	183,386	9.53	541,278	11.63	257,010	14.47
	Lower Limit ==>	45,847	8.53	135,320	10.63	64,253	13.47
	ICAL Result ==>	82,446	9.04	225,274	11.13	116,484	13.97
Associated Analyses							
Method Blank	KWG1205236-6	96,204	9.03	319,586	11.13	148,261	13.97
Lab Control Sample	KWG1205236-5	76,438	9.03	216,894	11.13	96,286	13.97
SO-56394-051112-EB-009	K1204583-002	90,850	9.03	305,139	11.12	139,052	13.96

Results flagged with an asterisk (\*) indicate values outside control criteria.

Form 2B - Organic 832

SuperSet Reference: RR141850

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583 **Date Analyzed:** 05/21/2012

Time Analyzed: 12:13

**Internal Standard Area and RT Summary** Semi-Volatile Organic Compounds by GC/MS

File ID:

Instrument ID:

**Analysis Method:** 

J:\MS08\DATA\052112\0521F003.D

8270D

MS08

**Lab Code:** KWG1205311-2

Analysis Lot: KWG1205311

		Phenanthrer	ne-d10	Chrysene-	-d12	Perylene-	d12
	ru	Area	RT	Area	RT	<u>Area</u>	$\underline{\mathbf{RT}}$
	Results ==>	204,957	16.35	161,708	20.66	143,460	23.69
	Upper Limit ==>	409,914	16.85	323,416	21.16	286,920	24.19
	Lower Limit ==>	102,479	102,479 15.85	80,854	20.16	71,730	23.19
	ICAL Result ==>	170,123	16.35	157,299	20.66	142,917	23.69
Associated Analyses							
Method Blank	KWG1205236-6	216,019	16.34	162,174	20.65	138,706	23.68
Lab Control Sample	KWG1205236-5	167,216	16.35	127,495	20.66	120,496	23.69
SO-56394-051112-EB-009	K1204583-002	198,267	16.35	149,347	20.65	125,202	23.68

Results flagged with an asterisk (\*) indicate values outside control criteria.

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SuperSet Reference:

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583 **Date Analyzed:** 05/23/2012

Time Analyzed: 09:19

**Internal Standard Area and RT Summary** Semi-Volatile Organic Compounds by GC/MS

File ID:

J:\MS08\DATA\052312\0523F002.D

**Lab Code:** KWG1205426-2

Instrument ID:

MS08

Analysis Lot: KWG1205426

**Analysis Method:** 

8270D

		1,4-Dichlorober	nzene-d4	Naphthale	ne-d8	Acenaphthe	ne-d10
		Area	RT	<u>Area</u>	RT	<u>Area</u>	RT
	Results ==>	65,857	9.02	185,123	11.12	82,705	13.96
	Upper Limit ==>	131,714	9.52	370,246	11.62	165,410	14.46
	Lower Limit ==>	,	8:52	92,562	10.62	41,353	13.46
	ICAL Result ==>	62,187	9.03	178,914	11.12	79,807	13.96
Associated Analyses							
SO-56394-051112-EB-009MS	KWG1205236-1	57,801	9.03	164,321	11.13	73,125	13.96

Results flagged with an asterisk (\*) indicate values outside control criteria.

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SuperSet Reference:

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/23/2012

Time Analyzed: 09:19

**Internal Standard Area and RT Summary** Semi-Volatile Organic Compounds by GC/MS

File ID:

J:\MS08\DATA\052312\0523F002.D

Lab Code: KWG1205426-2

Instrument ID:

MS08

Analysis Method:

8270D

Analysis Lot: KWG1205426

		Phenanthre	ne-d10	Chrysene	-d12	Perylene-	d12
	•	Area	RT	Area	RT	<u>Area</u> 92,948 185,896 46,474	$\underline{\mathbf{RT}}$
	Results ==>	134,477	16.34	·	20.66 21.16 20.16		23.67
	Upper Limit ==>	268,954	16.84				24.17 23.17
	Lower Limit ==>	67,239	15.84	51,794			
	ICAL Result ==>	128,141	16.34	105,761	20.66	94,708	23.68
Associated Analyses							
SO-56394-051112-EB-009MS	KWG1205236-1	132,539	16.35	101,324	20.66	94,308	23.69

Results flagged with an asterisk (\*) indicate values outside control criteria.

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

**Date Prepared:** 05/17/2012

Date Extracted: 5/18/2012

**Date Analyzed:** 05/23/2012

**Matrix Spike Summary** 

Toxicity Characteristic Leaching Procedure (TCLP) Semi-Volatile Organic Compounds by GC/MS

Sample Name:

SO-56394-051112-EB-009

Lab Code:

K1204583-002

**Preparation Method:** EPA 1311

**Extraction Method:** EPA 3510C

Analysis Method:

8270D

Units: mg/L

Basis: NA

Level: Low

Extraction Lot: KWG1205236

SO-56394-051112-EB-009

MS

KWG1205236-1

	Sample	Matrix Spike		%Rec	
Analyte Name	Result	Result	Expected	%Rec	Limits
Pyridine	ND	1.21	2.00	61	10-113
2-Methylphenol	ND	0.829	1.00	83	49-109
Hexachloroethane	ND	0.728	1.00	73	35-106
4-Methylphenol	ND	0.823	1.00	82	39-112
Nitrobenzene	ND	0.871	1.00	. 87	45-117
Hexachlorobutadiene	ND	0.739	1.00	74	38-112
2,4,6-Trichlorophenol	ND	0.918	1.00	92 95	58-113
2,4,5-Trichlorophenol	ND	0.954	1.00	95	53-115
2,4-Dinitrotoluene	ND	1.00	1.00	100	61-113
Hexachlorobenzene	ND	0.849	1.00	85	57-114
Pentachlorophenol	ND	0.989	1.00	99	57-128

Results flagged with an asterisk (\*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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RR141850 SuperSet Reference:

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QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Water

Service Request: K1204583

**Date Prepared:** 05/17/2012 Date Extracted: 05/18/2012

**Date Analyzed:** 05/21/2012

Lab Control Spike Summary Semi-Volatile Organic Compounds by GC/MS

**Extraction Method:** EPA 1311/EPA 3510C

**Analysis Method:** 

8270D

Units: mg/L

Level: Low

Basis: NA

Extraction Lot: KWG1205236

Lab Control Sample KWG1205236-5 Lab Control Spike

	Lau	Court of Shire	C	%Rec
Analyte Name	Result	Expected	%Rec	Limits
Pyridine	0.660	2.00	33	10-117
2-Methylphenol	0.820	1.00	82	51-104
Hexachloroethane	0.735	1.00	73	41-97
4-Methylphenol	0.840	1.00	84	53-101
Nitrobenzene	0.779	1.00	78	50-107
Hexachlorobutadiene	0.669	1.00	67	45-98
2,4,6-Trichlorophenol	0.859	1.00	86	64-108
2,4,5-Trichlorophenol	0.878	1.00	88	63-107
2,4-Dinitrotoluene	1.08	1.00	108	55-121
Hexachlorobenzene	0.741	1.00	74	59-113
Pentachlorophenol	0.886	1.00	89	52-122

Results flagged with an asterisk (\*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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Form 3C - Organic

SuperSet Reference:

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QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Water

Service Request: K1204583

Date Extracted: 05/18/2012 **Date Analyzed:** 05/21/2012

Time Analyzed: 19:07

### **Method Blank Summary** Semi-Volatile Organic Compounds by GC/MS

Sample Name:

**Analysis Method:** 

Method Blank

Lab Code:

KWG1205236-6

EPA 3510C

Extraction Method: 8270D **Instrument ID:** MS08

File ID: J:\MS08\DATA\052112\0521F013.D

Level: Low

Extraction Lot: KWG1205236

This Method Blank applies to the following analyses:

		Date	Time
Lab Code	File ID	Analyzed	Analyzed
KWG1205236-5	J:\MS08\DATA\052112\0521F014.D	05/21/12	19:47
K1204583-002	J:\MS08\DATA\052112\0521F019.D	05/21/12	23:09
KWG1205236-1	J:\MS08\DATA\052312\0523F012.D	05/23/12	16:11
	KWG1205236-5 K1204583-002	KWG1205236-5 J:\MS08\DATA\052112\0521F014.D K1204583-002 J:\MS08\DATA\052112\0521F019.D	Lab Code         File ID         Analyzed           KWG1205236-5         J:\MS08\DATA\052112\0521F014.D         05/21/12           K1204583-002         J:\MS08\DATA\052112\0521F019.D         05/21/12

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Now part of the ALS Group

QA/QC Report

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Water

Service Request: K1204583

Date Extracted: 05/18/2012

**Date Analyzed:** 05/21/2012 Time Analyzed: 19:47

**Lab Control Sample Summary** Semi-Volatile Organic Compounds by GC/MS

Sample Name:

Lab Control Sample

Lab Code:

KWG1205236-5

Instrument ID: MS08

File ID: J:\MS08\DATA\052112\0521F014.D

**Extraction Method: Analysis Method:** 

EPA 3510C

8270D

Level: Low

Extraction Lot: KWG1205236

This Lab Control Sample applies to the following analyses:

County Norma	Lah Code	File ID	Date Analyzed	Time Analyzed
Sample Name Method Blank	KWG1205236-6	J:\MS08\DATA\052112\0521F013.D	05/21/12	19:07
SO-56394-051112-EB-009 SO-56394-051112-EB-009MS	K1204583-002 KWG1205236-1	J:\MS08\DATA\052112\0521F019.D J:\MS08\DATA\052312\0523F012.D	05/21/12 05/23/12	23:09 16:11

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/21/2012

Time Analyzed: 12:13

### **Tune Summary** Semi-Volatile Organic Compounds by GC/MS

File ID:

J:\MS08\DATA\052112\0521T003.D

Instrument ID:

MS08

Analysis Method: 8270D

Column:

Analysis Lot: KWG1205311

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail		
51	198	30	80	42.3	3476	PASS		
68	69	0	2	0.0	0	PASS		
69	198	0	100	51.1	4200	PASS		
70	69	0	2	0.0	0	PASS		
127	198	25	75	53.6	4402	PASS		
197	198	0	1	0.0	0	PASS		
198	198	100	100	100.0	8214	PASS		
199	198	5	9	5.0	412	PASS		
275	198	10	30	22.3	1830	PASS		
365	198	1	100	3.0	244	PASS		
441	443	0	100	69.9	750	PASS		
442	198	40	110	59.9	4924	PASS		
443	442	15	24	21.8	1073	PASS		

			Date	Time	
Sample Name	Lab Code	File ID	Analyzed	Analyzed	Q
Continuing Calibration Verification	KWG1205311-2	J:\MS08\DATA\052112\0521F003.D	05/21/2012	12:13	
Method Blank	KWG1205236-6	J:\MS08\DATA\052112\0521F013.D	05/21/2012	19:07	
Lab Control Sample	KWG1205236-5	J:\MS08\DATA\052112\0521F014.D	05/21/2012	19:47	
SO-56394-051112-EB-009	K1204583-002	J:\MS08\DATA\052112\0521F019.D	05/21/2012	23:09	

Results flagged with an asterisk (\*) indicate the analysis performed outside specified tune window

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/23/2012

Time Analyzed: 09:19

# **Tune Summary** Semi-Volatile Organic Compounds by GC/MS

File ID:

J:\MS08\DATA\052312\0523T002.D

Instrument ID:

MS08

Analysis Method: 8270D

Analysis Lot: KWG1205426

Column:	
---------	--

Target Mass	Relative to Mass	Lower Limit%	Upper Limit%	Relative Abundance %	Raw Abundance	Result Pass/Fail	
51	198	30	60	45.0	5101	PASS	
68	69	0	2	0.0	0	PASS	
69	198	0	100	57.0	6458	PASS	
70	69	0	2	0.0	0	PASS	
127	198	40	60	47.6	5400	PASS	
197	198	0	1	0.0	0	PASS	
198	198	100	100	100.0	11338	PASS	
199	198	5	9	7.1	809	PASS	
275	198	10	30	22.4	2536	PASS	
365	198	1	100	3.0	342	PASS	
441	443	0	100	84.4	1257	PASS	
442	198	40	100	68.5	7766	PASS	
443	442	17	23	19.2	1490	PASS	

			Date	Time	
Sample Name	Lab Code	File ID	Analyzed	Analyzed	Q
Continuing Calibration Verification	KWG1205426-2	J:\MS08\DATA\052312\0523F002.D	05/23/2012	09:19	
SO-56394-051112-EB-009MS	KWG1205236-1	J:\MS08\DATA\052312\0523F012.D	05/23/2012	16:11	

Results flagged with an asterisk (\*) indicate the analysis performed outside specified tune window

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SuperSet Reference:

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/11/2012

## **Initial Calibration Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration ID:

CAL11515

Column: MS

Instrument ID:

MS08

Level ID	File ID
A	J:\MS08\DATA\051112\0511F004.D
В	J:\MS08\DATA\051112\0511F005.D
C	J:\MS08\DATA\051112\0511F006.D
D	J:\MS08\DATA\051112\0511F007.D
E	J:\MS08\DATA\051112\0511F008.D
F	J:\MS08\DATA\051112\0511F009.D

	Level ID	File ID
004.D	G ·	J:\MS08\DATA\051112\0511F010.D
005.D	Н	J:\MS08\DATA\051112\0511F011.D
006.D	I	J:\MS08\DATA\051112\0511F012.D
007.D	J	J:\MS08\DATA\051112\0511F013.D

	Level			Level			Level			Level			Level		
Analyte Name	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF
Pyridine			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	В	5.0	1.90	С	10	1.98	D	20	2.32	E	50	2.29
•	F	80	2.37	G	100	2.29	Н	120	2.30	I	160	2.35	J	200	2.24
2-Methylphenol	A	1.0	1.20	В	5.0	1.27	С	10	1.24	D	20	1.23	E	50	1.00
	F	80	1.02	G	100	0.906	Н	120	0.871	I	160	0.808	J	200	0.737
Hexachloroethane	A	1.0	0.619	В	5.0	0.639	C	10	0.634	D	20	0.638	E	50	0.537
	F	80	0.491	G	100	0.455	Н	120	0.421	I	160	0.394	Ј	200	0.353
4-Methylphenol	Α	1.0	1.13	В	5.0	1.24	С	10	1.25	D	20	1.23	Е	50	0.997
· · · · · · · · · · · · · · · · · · ·	F	80	1.04	G	100	0.918	Н	120	0.817	I	160	0.753	J	200	0.728
Nitrobenzene	Α	1.0	1.26	В	5.0	1.45	C	10	1.46	D	20	1.45	Е	50	1.32
	F	80	1.23	G	100	1.21	Н	120	1.09	I	160	1.12	J	200	1.08
Hexachlorobutadiene	А	1.0	0.218	В	5.0	0.202	С	10	0.214	D	20	0.203	Е	50	0.194
	F	80	0.185	G	100	0.181	Н	120	0.174	I	160	0.161	J	200	0.152
2,4,6-Trichlorophenol				В	5.0	0.386	, C	. : 10	0.461	D	20	0.461	Е	50	0.444
_, .,r	F	80	0.448	G	100	0.448	Н	120	0.439	I	160	0.405	J	200	0.383
2,4,5-Trichlorophenol	AND THE PROPERTY OF THE PARTY O			В	5.0	0.366	C	10	0.496	D	20	0.472	Е	50	0.462
-, ., <sub>F</sub>	F	80	0.479	G	100	0.477	Н	120	0.455	I	160	0.402	J	200	0.403
2,4-Dinitrotoluene				:	******	( )	C	10	0.305	D	20	0.358	Е	50	0.372
	F	80	0.385	G	100	0.404	Н	120	0.387	1	160	0.364	J	200	0.355
Hexachlorobenzene	A	1.0	0.255	В	5.0	0.276	C	10	0.268	D	20	0.265	Е	50	0.242
	F	80	0.232	G	100	0.207	Н	. 120	0.195	I	160	0.190	J	200	0.184
Pentachlorophenol							1			D	20	0.112	Е	50	0.135
r	F	80	0.140	G	100	0.134	Н	120	0.129	I	160	0.140	J	200	0.139
2-Fluorophenol				В	5.0	1.56	C	10	1.30	D	20	1.55	Е	50	1.52
	F	80	1.56	G	100	1.48	Н	120	1.47	I	160	1.45	J	200	1.26
Phenol-d6	A	1.0	1.58	В	5.0	2.01	C	10	1.76	D	20	1.99	Е	50	1.80
	F	80	1.83	G	100	1.76	Н	120	1.72	I	160	1.65	J	200	1.50
Nitrobenzene-d5	А	1.0	0.998	В	5.0	1.35	C	10	1.28	D	20	1.41	Е	50	1.29
	F	80	1.28	G	100	1.19	Н	120	1.21	I	160	1.16	J	200	1.08

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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SuperSet Reference: RR141850

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QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/11/2012

## **Initial Calibration Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration ID: Instrument ID:

CAL11515

MS08

Column: MS

Level			Level			Level			Level			Level		
ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	D	Amt	RRF
А	1.0	1.61	В	5.0	1.73	C	10	1.46	D	20	1.50	Е	50	1.31
F	80	1.31	G	100	1.24	Н	120	1.23	I	160	1.09	J	200	0.957
			В	5.0	0.0916	С	10	0.0913	D	20	0.100	Е	- 50	0.101
F	80	0.101	G	100	0.0921	Н	120	0.0861	I	160	0.0905	J	200	0.0821
A	1.0	0.775	В	5.0	0.736	С	10	0.696	D	20	0.705	Е	50	0.691
F	80	0.667	G	100	0.677	Н	120	0.674	I	160	0.676	J	200	0.623
	A F F	F 80 A 1.0 A 1.0 A 1.0 A 1.0	ID         Amt         RRF           A         1.0         1.61           F         80         1.31           F         80         0.101           A         1.0         0.775	ID         Amt         RRF         ID           A         1.0         1.61         B           F         80         1.31         G           B         B         B         G           A         1.0         0.775         B	ID         Amt         RRF         ID         Amt           A         1.0         1.61         B         5.0           F         80         1.31         G         100           F         80         0.101         G         100           A         1.0         0.775         B         5.0	ID         Amt         RRF         ID         Amt         RRF           A         1.0         1.61         B         5.0         1.73           F         80         1.31         G         100         1.24           F         80         0.101         G         100         0.0916           F         80         0.101         G         100         0.0921           A         1.0         0.775         B         5.0         0.736	ID         Amt         RRF         ID         Amt         RRF         ID           A         1.0         1.61         B         5.0         1.73         C           F         80         1.31         G         100         1.24         H           B         5.0         0.0916         C         C           F         80         0.101         G         100         0.0921         H           A         1.0         0.775         B         5.0         0.736         C	ID         Amt         RRF         ID         Amt         RRF         ID         Amt           A         1.0         1.61         B         5.0         1.73         C         10           F         80         1.31         G         100         1.24         H         120           F         80         0.101         G         100         0.0916         C         10           F         80         0.101         G         100         0.0921         H         120           A         1.0         0.7775         B         5.0         0.736         C         10	ID         Amt         RRF         ID         Amt         RRF         ID         Amt         RRF           A         1.0         1.61         B         5.0         1.73         C         10         1.46           F         80         1.31         G         100         1.24         H         120         1.23           F         80         0.101         G         100         0.0916         C         10         0.0913           F         80         0.101         G         100         0.0921         H         120         0.0861           A         1.0         0.7755         B         5.0         0.736         C         10         0.696	Name   Name	Name   Name	ID   Amt   RRF   ID   Amt   RRF   ID   Amt   RRF   ID   Amt   RRF	No   No   No   No   No   No   No   No	Name   Name

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6A - Organic

SuperSet Reference:

RR141850

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Now part of the ALS Group

QA/QC Results

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/11/2012

## **Initial Calibration Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration ID: Instrument ID:

CAL11515

MS08

Column: MS

		Tricomercials.		RRF Evaluation					
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Pyridine	MS	AverageRF	% RSD	7.6	AND DESCRIPTION OF THE PERSON	≤ 20	2.23		0.01
2-Methylphenol	MS	AverageRF	% RSD	19.1		≤ 20	1.03		0.700
Hexachloroethane	MS	Quadratic(0,0)	COD	0.998		≥0,990	0.518		0.300
4-Methylphenol	MS	AverageRF	% RSD	19.9		≤ 20	1.01		0.900
Nitrobenzene	MS	AverageRF	% RSD	11.7		≤ 20	1.27		0.200
Hexachlorobutadiene	MS	AverageRF	% RSD	11.5		≤ 20	0.188		0.010
2,4,6-Trichlorophenol	MS	AverageRF	% RSD	7.2		≤ 20	0.431		0.200
2,4,5-Trichlorophenol	MS	AverageRF	% RSD	10.0		≤20	0.446		0.200
2,4-Dinitrotoluene	MS	AverageRF	% RSD	8.1		≤ 20	0.366		0.200
Hexachlorobenzene	MS	AverageRF	% RSD	15.1		≤ 20	0.231		0.100
Pentachlorophenol	MS	AverageRF	% RSD	7.5		≤ 20	0.133		0.050
2-Fluorophenol	SURR	AverageRF	% RSD	7.6		≤ 20	1.46		0.01
Phenol-d6	SURR	AverageRF	% RSD	9.2		≤ 20	1.76		0.01
Nitrobenzene-d5	SURR	AverageRF	% RSD	10.1		≤ 20	1.22		0.01
2-Fluorobiphenyl	SURR	AverageRF	% RSD	17.5		≤ 20	1.34		0.01
2,4,6-Tribromophenol	SURR	AverageRF	% RSD	7.1		≤ 20	0.0928		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	6.0		≤ 20	0.692		0.01

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6A - Organic 844

SuperSet Reference:

Page RR141850

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583 Calibration Date: 05/11/2012

**Date Analyzed:** 05/11/2012

**Second Source Calibration Verification** Semi-Volatile Organic Compounds by GC/MS

Calibration Type:

Internal Standard

Calibration ID: CAL11515

Units: ug/ml

**Analysis Method:** 

8270D

File ID:

J:\MS08\DATA\051112\0511F014.D J:\MS08\DATA\051112\0511F016.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Pyridine	80	86	2.23	2.39	7	NA	± 30 %	AverageRF
2-Methylphenol	80	73	1.03	0.944	-8	NA	$\pm$ 30 %	AverageRF
Hexachloroethane	80	74	0.518	0.452	NA	-7	$\pm$ 30 %	puadratic(0,(
4-Methylphenol	80	77	1.01	0.967	-4	NA	$\pm$ 30 %	AverageRF
Nitrobenzene	80	74	1.27	1.17	-7	NA	± 30 %	AverageRF
Hexachlorobutadiene	80	72	0.188	0.169	-10	NA	$\pm$ 30 %	AverageRF
2,4,6-Trichlorophenol	80	88	0.431	0.471	9	NA	± 30 %	AverageRF
2,4,5-Trichlorophenol	80	90	0.446	0.500	12	NA	± 30 %	AverageRF
2,4-Dinitrotoluene	80	81	0.366	0.369	1	NA	$\pm$ 30 %	AverageRF
Hexachlorobenzene	80	73	0.231	0.212	-8	NA	$\pm$ 30 %	AverageRF
Pentachlorophenol	80	94	0.133	0.155	17	NA	± 30 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6B - Organic 845

RR141850 SuperSet Reference:

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/22/2012

### **Initial Calibration Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration ID:

CAL11555

Column: MS

Instrument ID:

MS08

Level ID File ID J:\MS08\DATA\052212\0522F003.D Α J:\MS08\DATA\052212\0522F004.D В J:\MS08\DATA\052212\0522F005.D  $\mathbb{C}$ D J:\MS08\DATA\052212\0522F006.D

G Н

File ID

Level ID

I

J

J:\MS08\DATA\052212\0522F009.D J:\MS08\DATA\052212\0522F010.D

J:\MS08\DATA\052212\0522F011.D

J:\MS08\DATA\052212\0522F012.D

E J:\MS08\DATA\052212\0522F007.D J:\MS08\DATA\052212\0522F008.D F

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
Pyridine			uservezed siro in entrino incentralità	В	5.0	1.71	С	10	1.90	D	20	1.98	Е	50	2.12
•	F	80	2.14	G	100	2.20	Н	120	2.21	Ι	160	2.22	J	200	2.20
2-Methylphenol	А	1.0	1.20	В	5.0	1.21	С	10	1.20	D	20	1.13	Е	50	1.14
,	F	80	1.03	G	100	0.976	Н	120	0.921	I	160	0.877	J	200	0.816
Hexachloroethane	А	1.0	0.576	В	5.0	0.613	C	10	0.614	D	20	0.594	Е	50	0.586
	F	80	0.529	G	100	0.504	Н	120	0.482	I	160	0.449	J	200	0.424
4-Methylphenol	A	1.0	1.11	В	5.0	1.26	C	10	1.27	D	20	1.18	Е	50	1.13
• •	$\mathbf{F}$	80	1.04	G	100	0.969	Н	120	0.922	I	160	0.848	J	200	0.781
Nitrobenzene	А	1.0	1.12	В	5.0	1.29	С	10	1.38	D	20	1.32	Е	50	1.29
	F	80	1.21	G	100	1.16	Н	120	1.11	I	160	1.08	J	200	1.05
Hexachlorobutadiene	A	1.0	0.196	В	5.0	0.187	С	10	0.193	D	20	0.178	Е	50	0.173
	F	80	0.164	G	100	0.159	Н	120	0.148	I	160	0.146	J	200	0.140
2,4,6-Trichlorophenol				В	5.0	0.377	С	10	0.411	D	20	0.434	Е	50	0.437
•	F	80	0.411	G	100	0.409	Н	120	0.399	I	160	0.388	J	200	0.361
2,4,5-Trichlorophenol				В	5.0	0.395	С	10	0.448	D	20	0.436	Е	50	0.461
-	F	80	0.455	G	100	0.426	Н	120	0.418	I	160	0.402	J	200	0.377
2,4-Dinitrotoluene				! ! !			С	. 10	0.327	D	20	0.395	Е	50	0.450
•	F	80	0.446	G	100	0.444	Н	120	0.448	I	160	0.437	J	200	0.430
Hexachlorobenzene				В	5.0	0.232	С	10	0.226	D	20	0.225	Е	50	0.207
	F	80	0.188	G	100	0.178	Η	120	0.172	I	160	0.164	J	200	0.155
Pentachlorophenol				γ			роличеномо причения 1 1		<u> </u>	D	20	0.104	Е	50	0.130
•	F	80	0.135	G	100	0.135	Н	120	0.130	I	160	0.131	J	200	0.125
2-Fluorophenol	**************************************			В	5.0	1.33	С	10	1.36	D	20	1.48	Е	50	1.64
•	F	80	1.59	G	100	1.56	Η	120	1.56	I	160	1.53	J	200	1.40
Phenol-d6	A	1.0	1.59	В	5.0	1.94	C	10	1.81	D	20	1.90	Е	50	2.01
	F	80	1.88	G	100	1.83	Н	120	1.83	Ι	160	1.75	J	200	1.60
Nitrobenzene-d5	А	1.0	0.879	В	5.0	1.30	С	10	1.19	D	20	1.27	Е	50	1.32
	F	80	1.24	G	100	1.19	Н	120	1.19	I	160	1.17	J	200	1.06

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6A - Organic 846

Page

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RR141850

Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394 Project:

Service Request: K1204583

Calibration Date: 05/22/2012

**Initial Calibration Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration ID: Instrument ID:

CAL11555

MS08

Column: MS

	Level			Level			Level			Level	A 4	בא פרצ פע	Level ID	Amet	יקור ביון ביון
Analyte Name	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	ID	Amt	RRF	117	Amt	RRF
2-Fluorobiphenyl	Α	1.0	1.53	В	5.0	1.67	С	10	1.46	D	20	1.45	E	50	1.39
2-1 Idorooiphenyi	F	80	1.27	G	100	1.22	Н	120	1.16	I	160	1.08	J	200	0.974
2,4,6-Tribromophenol				В	5.0	0.0918	С	10	0.0783	D	20	0.0991	Е	50	0.0951
2,4,0 1110101110pito1101	F	80	0.0882	G	100	0.0856	Н	120	0.0845	I	160	0.0798	J	200	0.0682
Terphenyl-d14	A	1.0	0.779	В	5.0	0.821	C	. 10	0.727	D	20	0.730	Е	50	0.733
respiration and	F	80	0.719	G	100	0.713	H	120	0.711	I	160	0.723	J	200	0.669

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6A - Organic

SuperSet Reference:

RR141850

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Now part of the ALS Group

QA/QC Results

Client: Project: Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/22/2012

## **Initial Calibration Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration ID: Instrument ID:

CAL11555

MS08

Column: MS

				RRF Evaluation					
Analyte Name	Compound Type	Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
Pyridine	MS	AverageRF	% RSD	8.4		≤ 20	2.08		0.01
2-Methylphenol	MS	AverageRF	% RSD	13.9		≤ 20	1.05		0.700
Hexachloroethane	MS	AverageRF	% RSD	12.9		≤20	0.537		0.300
4-Methylphenol	MS	AverageRF	% RSD	16.1		≤ 20	1.05		0.900
Nitrobenzene	MS	AverageRF	% RSD	9.5		≤ 20	1.20		0.200
Hexachlorobutadiene	MS	AverageRF	% RSD	11.9		≤ 20	0.168		0.010
2,4,6-Trichlorophenol	MS	AverageRF	% RSD	6.2		≤ 20	0.403		0.200
2,4,5-Trichlorophenol	MS	AverageRF	% RSD	6.8		≤ 20	0.424		0.200
2,4-Dinitrotoluene	MS	AverageRF	% RSD	10.0		≤ 20	0.422		0.200
Hexachlorobenzene	MS	AverageRF	% RSD	15.0		≤ 20	0.194		0.100
Pentachlorophenol	MS	AverageRF	% RSD	8.5		≤ 20	0.127		0.050
2-Fluorophenol	SURR	AverageRF	% RSD	7.3		≤ 20	1.50		0.01
Phenol-d6	SURR	AverageRF	% RSD	7.6		≤ 20	1.81		0.01
Nitrobenzene-d5	SURR	AverageRF	% RSD	11.0		≤ 20	1.18		0.01
2-Fluorobiphenyl	SURR	AverageRF	% RSD	16.4		≤ 20	1.32		0.01
2,4,6-Tribromophenol	SURR	AverageRF	% RSD	11.0		≤ 20	0.0856		0.01
Terphenyl-d14	SURR	AverageRF	% RSD	5.6	····	≤ 20	0.732	*****	0.01

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6A - Organic 848

SuperSet Reference:

RR141850

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

Calibration Date: 05/22/2012 **Date Analyzed:** 05/23/2012

**Second Source Calibration Verification** Semi-Volatile Organic Compounds by GC/MS

Calibration Type:

Internal Standard

Calibration ID: CAL11555

Units: ug/ml

**Analysis Method:** 

8270D

File ID:

J:\MS08\DATA\052212\0522F013.D J:\MS08\DATA\052212\0522F014.D

J:\MS08\DATA\052312\0523F004.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
Pyridine	80	87	2.08	2.26	9	NA	± 30 %	AverageRF
2-Methylphenol	80	78	1.05	1.03	-2	NA	± 30 %	AverageRF
Hexachloroethane	80	78	0.537	0.526	-2	NA	± 30 %	AverageRF
4-Methylphenol	80	81	1.05	1.07	1	NA	± 30 %	AverageRF
Nitrobenzene	80	79	1.20	1.19	-1	NA	± 30 %	AverageRF
Hexachlorobutadiene	80	74	0.168	0.156	-7	NA	± 30 %	AverageRF
2,4,6-Trichlorophenol	80	87	0.403	0.438	9	NA	± 30 %	AverageRF
2,4,5-Trichlorophenol	80	89	0.424	0.471	11	NA	± 30 %	AverageRF
2,4,5-1 Hemotophenor	80	83	0.422	0.437	4	NA	± 30 %	AverageRF
Hexachlorobenzene	80	76	0.194	0.185	-5	NA	± 30 %	AverageRF
Pentachlorophenol	80	87	0.127	0.138	8	NA	± 30 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 6B - Organic 849

SuperSet Reference: RR141850

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/21/2012

# **Continuing Calibration Verification Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration Type:

Internal Standard

**Analysis Method:** 

8270D

Calibration ID: CAL11515

Calibration Date: 05/11/2012

Analysis Lot: KWG1205311

Units: ug/ml

File ID:

J:\MS08\DATA\052112\0521F003.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Pyridine	50	50	0.01	2.23	2.21	-1	NA	$\pm$ 20 %	AverageRF
2-Methylphenol	50	54	0.700	1.03	1.12	9	NA	$\pm$ 20 %	AverageRF
Hexachloroethane	50	53	0.300	0.518	0.543	NA	6	$\pm$ 20 %	Quadratic(0,(
4-Methylphenol	50	54	0.900	1.01	1.09	8	NA	$\pm$ 20 %	AverageRF
Nitrobenzene	50	48	0.200	1.27	1.21	-5	NA	$\pm$ 20 %	AverageRF
Hexachlorobutadiene	50	45	0.010	0.188	0.168	-11	NA	$\pm$ 20 %	AverageRF
2,4,6-Trichlorophenol	50	47	0.200	0.431	0.409	-5	NA	± 20 %	AverageRF
2,4,5-Trichlorophenol	50	48	0.200	0.446	0.429	-4	NA	± 20 %	AverageRF
2,4-Dinitrotoluene	50	55	0.200	0.366	0.407	11	NA	$\pm$ 20 %	AverageRF
Hexachlorobenzene	50	44	0.100	0.231	0.203	-12	NA	± 20 %	AverageRF
Pentachlorophenol	50	48	0.050	0.133	0.128	-4	NA	$\pm$ 20 %	AverageRF
2-Fluorophenol	50	55	0.01	1.46	1.61	10	NA	$\pm$ 20 %	AverageRF
Phenol-d6	50	54	0.01	1.76	1.91	8	NA	± 20 %	AverageRF
Nitrobenzene-d5	50	51	0.01	1.22	1.25	2	NA	$\pm$ 20 %	AverageRF
2-Fluorobiphenyl	50	46	0.01	1.34	1.24	-8	NA	$\pm$ 20 %	AverageRF
2,4,6-Tribromophenol	50	51	0.01	0.0928	0.0954	3	NA	$\pm$ 20 %	AverageRF
Terphenyl-d14	50	50	0.01	0.692	0.688	-1	NA	$\pm$ 20 %	AverageRF

Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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Form 7 - Organic 850

SuperSet Reference: RR141850

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Now part of the ALS Group

QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Date Analyzed:** 05/23/2012

**Continuing Calibration Verification Summary** Semi-Volatile Organic Compounds by GC/MS

Calibration Type: **Analysis Method:** 

Internal Standard

8270D

Calibration Date: 05/22/2012 Calibration ID: CAL11555

Analysis Lot: KWG1205426

Units: ug/ml

File ID:

J:\MS08\DATA\052312\0523F002.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
Pyridine	50	59	0.01	2.08	2.45	18	NA	± 20 %	AverageRF
2-Methylphenol	50	51	0.700	1.05	1.08	2	NA	± 20 %	AverageRF
Hexachloroethane	50	52	0.300	0.537	0.561	4	NA	± 20 %	AverageRF
4-Methylphenol	50	53	0.900	1.05	1.11	5	NA	± 20 %	AverageRF
Nitrobenzene	50	51	0.200	1.20	1.22	1	NA	± 20 %	AverageRF
Hexachlorobutadiene	50	48	0.010	0.168	0.160	-5	NA	± 20 %	AverageRF
2,4,6-Trichlorophenol	50	53	0.200	0.403	0.425	5	NA	± 20 %	AverageRF
2,4,5-Trichlorophenol	50	53	0.200	0.424	0.449	6	NA	± 20 %	AverageRF
2,4-Dinitrotoluene	50	52	0.200	0.422	0.437	3	NA	± 20 %	AverageRF
Hexachlorobenzene	50	51	0.100	0.194	0.198	2	NA .	± 20 %	AverageRF
Pentachlorophenol	50	48	0.050	0.127	0.121	-5	NA	± 20 %	AverageRF
2-Fluorophenol	50	52	0.01	1.50	1.57	5	NA	± 20 %	AverageRF
Phenol-d6	50	53	0.01	1.81	1.93	6	NA	± 20 %	AverageRF
Nitrobenzene-d5	50	51	0.01	1.18	1.20	1	NA	± 20 %	AverageRF
2-Fluorobiphenyl	50	49	0.01	1.32	1.28	<b>-</b> 3	NA	± 20 %	AverageRF
2,4,6-Tribromophenol	50	50	0.01	0.0856	0.0857	0	NA	± 20 %	AverageRF
Terphenyl-d14	50	50	0.01	0.732	0.733	0	NA	$\pm$ 20 %	AverageRF
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Results flagged with an asterisk (\*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

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QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Service Request: K1204583

**Analysis Run Log** Semi-Volatile Organic Compounds by GC/MS

**Analysis Method:** 

8270D

Analysis Lot: KWG1205311

**Instrument ID:** MS08

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0521T003.D	GC/MS Tuning - Decafluorotriphenylp	KWG1205311-1	5/21/2012	12:13		5/21/2012	12:43
0521F003.D	Continuing Calibration Verification	KWG1205311-2	5/21/2012	12:13		5/21/2012	12:43
0521F005.D	Instrument Blank	KWG1205311-4	5/21/2012	13:42		5/21/2012	14:12
0521F006.D	ZZZZZZ	ZZZZZZ	5/21/2012	14:22		5/21/2012	14:52
0521F007.D	ZZZZZZ	ZZZZZZ	5/21/2012	15:03		5/21/2012	15:33
0521F008.D	ZZZZZZ	ZZZZZZ	5/21/2012	15:43		5/21/2012	16:13
0521F009.D	ZZZZZZ	ZZZZZZ	5/21/2012	16:25		5/21/2012	16:55
0521F012.D	ZZZZZZ	ZZZZZZ	5/21/2012	18:26		5/21/2012	18:56
0521F013.D	Method Blank	KWG1205236-6	5/21/2012	19:07		5/21/2012	19:37
0521F014.D	Lab Control Sample	KWG1205236-5	5/21/2012	19:47		5/21/2012	20:17
0521F015.D	ZZZZZZ	ZZZZZZ	5/21/2012	20:28		5/21/2012	20:58
0521F016.D	ZZZZZZ	ZZZZZZ	5/21/2012	21:08		5/21/2012	21:38
0521F017.D	ZZZZZZ	ZZZZZZ	5/21/2012	21:49		5/21/2012	22:19
0521F018.D	ZZZZZZ	ZZZZZZ	5/21/2012	22:29		5/21/2012	22:59
0521F019.D	SO-56394-051112-EB-009	K1204583-002	5/21/2012	23:09		5/21/2012	23:39

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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RR141850 SuperSet Reference:

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QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Former Plainwell Mill/056394 Project:

Service Request: K1204583

**Analysis Run Log** Semi-Volatile Organic Compounds by GC/MS

**Analysis Method:** 

8270D

Analysis Lot: KWG1205426

**Instrument ID:** MS08

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
0523F002.D	Continuing Calibration Verification	KWG1205426-2	5/23/2012	09:19		5/23/2012	09:49
0523T002.D	GC/MS Tuning - Generic	KWG1205426-1	5/23/2012	09:19		5/23/2012	09:49
0523F005.D	ZZZZZZ	ZZZZZZ	5/23/2012	11:28		5/23/2012	11:58
0523F006.D	ZZZZZZ	ZZZZZZ	5/23/2012	12:09		5/23/2012	12:39
0523F007.D	ZZZZZZ	ZZZZZZ	5/23/2012	12:49		5/23/2012	13:19
0523F008.D	ZZZZZZ	ZZZZZZ	5/23/2012	13:29		5/23/2012	13:59
0523F009.D	ZZZZZZ	ZZZZZZ	5/23/2012	14:10		5/23/2012	14:40
0523F010.D	ZZZZZZ	ZZZZZZ	5/23/2012	14:50		5/23/2012	15:20
0523F011.D	ZZZZZZ	ZZZZZZ	5/23/2012	15:30		5/23/2012	16:00
0523F012.D	SO-56394-051112-EB-009MS	KWG1205236-1	5/23/2012	16:11		5/23/2012	16:41
0523F013.D	ZZZZZZ	ZZZZZZ	5/23/2012	16:51		5/23/2012	17:21
0523F014.D	ZZZZZZ	ZZZZZZ	5/23/2012	17:31		5/23/2012	18:01
0523F015.D	ZZZZZZ	ZZZZZZ	5/23/2012	18:11		5/23/2012	18:41
0523F016.D	ZZZZZZ	ZZZZZZ	5/23/2012	18:51		5/23/2012	19:21
0523F017.D	ZZZZZZ	ZZZZZZ	5/23/2012	19:32		5/23/2012	20:02
0523F018.D	ZZZZZZ	ZZZZZZ	5/23/2012	20:12		5/23/2012	20:42
0523F019.D	ZZZZZZ	ZZZZZZ	5/23/2012	20:52		5/23/2012	21:22

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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QA/QC Results

Client:

Conestoga-Rovers & Associates, Incorpora

Project:

Former Plainwell Mill/056394

Sample Matrix:

Soil

Service Request: K1204583

**Date Prepared:** 05/17/2012

Date Extracted: 05/18/2012

**Extraction Prep Log** Semi-Volatile Organic Compounds by GC/MS

Preparation Method: EPA 1311

**Extraction Method:** EPA 3510C **Analysis Method:** 

8270D

Extraction Lot: KWG1205236

Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
SO-56394-051112-EB-009	K1204583-002	05/11/12	05/12/12	100ml	$1 \mathrm{ml}$	NA	
Method Blank	KWG1205236-6	NA	NA	100ml	1 ml	NA	
SO-56394-051112-EB-009MS	KWG1205236-1	05/11/12	05/12/12	100ml	1 ml	NA	
Lab Control Sample	KWG1205236-5	NA	NA	100ml	$1 \mathrm{ml}$	NA	

Results flagged with an asterisk (\*) indicate the holding time was exceeded for the analysis

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